

UGANDA PROTECTORATE.

Annual Medical and Sanitary Report

FOR THE

YEAR ENDED 31st DECEMBER, 1914.

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PRINCIPAL MEDICAL OFFICER'S OFFICE,

ENTEBBE, UGANDA,

16th November, 1915.

SIR,

I have the honour to submit, for the information of His Excellency the Governor and for transmission to the Right Honourable the Secretary of State, the Medical Report on the health and sanitary condition of the Uganda Protectorate for the year 1914, together with the Returns, &c., appended thereto.

I have the honour to be,

Sir,

Your obedient Servant,

A. D. P. HODGES,

*Principal Medical Officer, Uganda
Protectorate.*

THE CHIEF SECRETARY

TO THE GOVERNMENT,

UGANDA PROTECTORATE.

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ANNUAL MEDICAL AND SANITARY REPORT

FOR THE

YEAR ENDED 31ST DECEMBER, 1914.

SECTION I.

(a) MEDICAL STAFF.

The Medical Staff consisted of :—

- Principal Medical Officer.
- Deputy Principal Medical Officer.
- Medical Sanitary Officer.
- 2 Senior Medical Officers.
- 15 Permanent Medical Officers.
- 4 Temporary Medical Officers.
- 4 Temporary Medical Officers for dealing specially with venereal diseases.
- 1 Temporary Medical Officer for dealing specially with plague and smallpox.
- 1 Bacteriologist.
- 1 Dental Surgeon.
- 3 Nursing Sisters.
- 2 European Dispensers.
- 1 Laboratory Assistant.
- 3 Assistant Surgeons.
- 17 Sub-Assistant Surgeons.
- 6 Compounders.
- And a varying number of native attendants.

The Clerical Staff at Headquarters consisted of :—

European—

- Chief Clerk to the P.M.O.
- Assistant Clerk.
- Medical Storekeeper.

Asiatic—

- 2 Fourth Grade Clerks.
- 1 Fourth Grade Store Clerk.

African—

- 1 Native Clerk.

LIST OF APPOINTMENTS, CHANGES, &C., IN STAFF.

From England.—Dr. N. S. Williams; Dr. R. S. Taylor; Nursing Sister E. M. Pratt; Mr. H. G. Blackman, Medical Storekeeper; Mr. P. J. L. Waters, Assistant Clerk; Mr. J. Stewart, Laboratory Assistant; Mr. G. S. Bateman, engaged on a fresh agreement as Surgeon Dentist.

From India.—Sub-Assistant Surgeon Nukand Ram; Sub-Assistant Surgeon J. J. Bhatt; Sub-Assistant Surgeon Basant Singh; Sub-Assistant Surgeon B. B. Goomal; Sub-Assistant Surgeon B. P. Das; Sub-Assistant Surgeon Hukam Singh, seconded to B.E.A., for military duty; Sub-Assistant Surgeon Karta Ram, seconded from B.E.A., for military duty.

Promotions.—Dr. H. R. Neilson, promoted to Probationary appointment on Permanent Staff; Mr. H. Flint, to be Chief Clerk; Mr. B. T. Thadani, from Sub-Assistant Surgeon to Assistant Surgeon; Mr. Fateh ud Din, from Compounder to Sub-Assistant Surgeon.

Resignations.—Dr. W. T. P. Meade-King; Mr. T. J. Cross, Medical Storekeeper; Assistant Surgeon Karam Singh.

Dismissals.—Assistant Surgeon S. R. Bhagwat; Sub-Assistant Surgeon B. B. Goomal.

Termination of Appointment.—Compounder A. G. D'Sa.

Invalidings.—Nil.

Deaths.—Nil.

Leave.—The following were on leave during the period stated opposite their names :—

	From	To
Dr. C. A. Wiggins...	24th March, 1914,	16th October, 1914.
Dr. C. J. Baker ...	14th November, 1914,	end of year.
Dr. R. A. L. van Someren...	20th April, 1914,	16th October, 1914.
Capt. G. Lane ...	13th July, 1914,	end of year.
Dr. J. H. Goodliffe ...	1st January, 1914,	16th February, 1914.
Dr. A. C. Rendle ...	1st January, 1914,	16th February, 1914.
Dr. H. B. Owen ...	25th June, 1914,	end of year.
Dr. L. Sells ...	1st January, 1914,	16th February, 1914.
Dr. J. A. Taylor ...	24th March, 1914,	16th October, 1914.
Dr. H. L. Duke ...	1st January, 1914,	16th February, 1914.
Dr. A. H. Owen ...	12th July, 1914,	end of year.
Dr. W. T. P. Meade-King...	5th May, 1914,	resigned.
Miss M. Robertson ...	28th February, 1914,	end of year.
Miss B. Petherbridge ...	21st October, 1914,	end of year.

MEDICAL OFFICERS AND MEMBERS OF SUBORDINATE STAFF ENGAGED ON
MILITARY DUTY DURING 1914.

(a) *At the Base, in addition to Civil duties :—*

Dr. A. D. P. Hodges, P.M.O., A.D.M.S.

Dr. C. A. Wiggins, D.P.M.O., D.A.D.M.S.

Dr. G. C. Strathairn, Medical Officer in charge of Base Hospitals, Kampala.
Acting D.A.D.M.S., to October 16th, 1914.

Dr. J. H. Goodliffe, Medical Officer in charge at Bombo Hospital and
4th K.A.R. Depot.

Dr. J. A. Taylor, Medical Officer in charge of Base Hospitals, Ntb.

Dr. H. R. Neilson.

Assistant Surgeon Bhagwat, to October 21st, 1914.
 Assistant Surgeon B. T. Thadani.
 Sub-Assistant Surgeon Achru Ram.
 Sub-Assistant Surgeon A. D. Kharkanis.
 Compounder Faquir Chand.

(b) *In the Field* :—

Captain G. J. Keane, R.A.M.C.
 Dr. C. H. Marshall.
 Dr. G. D. H. Carpenter.
 Dr. R. E. McConnell.
 Dr. H. L. Duke.
 Dr. F. C. Doble.
 Dr. R. J. A. Macmillan.
 Dr. W. L. Webb.
 Dr. R. S. Taylor, lent to East Africa Protectorate for military duty.
 Dispenser F. E. Westray.
 Sub-Assistant Surgeon J. J. Bhatt.
 Sub-Assistant Surgeon Basant Singh.
 Sub-Assistant Surgeon Hukam Singh, in East Africa.
 Sub-Assistant Surgeon Karta Ram, seconded from East Africa Protectorate.
 Compounder Ahmed Din.
 Compounder Karm Dad.

Since the outbreak of war the routine medical and sanitary service have been carried on with a skeleton staff, and practically all special work has had to be suspended. Of the nine Medical Officers employed on military duties in the field no less than six were engaged on special duties and one other had been detailed for such duties.

I desire to record the readiness and loyalty with which I have been supported by my staff in making changes and adaptations which have been necessary, and in carrying out the additional necessary duties involved.

The work of the Asiatic Staff was, on the whole, good. The difficulties in filling vacancies from India continue and three still remained open at the end of the year. It is believed, however, that the difficulty is now mainly due to the state of war.

The improvement in the Native Staff referred to last year is maintained. The conditions governing their employment have not materially altered. Use has been made of trained dressers for military purposes.

(b) FINANCIAL.

The estimated expenditure of the Medical Department for the year 1914–1915 was as follows :—

MEDICAL DEPARTMENT.						
<i>Personal Emoluments</i> —						
Permanent Medical Officers	...	...	...	...	...	£9,621
Clerical Staff, Medical Storekeeper, Packers, Messengers, &c.	...	...	...	...	...	891
Temporary Medical Officers and subordinate staff for sleeping sickness preventive measures	...	...	...	...	...	2,020
Temporary Medical Officers and subordinate staff for dealing with venereal diseases	...	...	...	...	...	2,050
Temporary Medical Officer and subordinate staff for dealing with plague and smallpox	...	...	...	...	...	1,398
Laboratory Division—						
Bacteriologist	...	...	...	...	...	550
Subordinate Staff	...	...	...	...	...	190
Medical Sanitary Officer	...	...	...	...	...	625
Dental Surgeon	...	...	...	...	...	400
Total personal emoluments						<u>£17,745</u>

Other Charges—

Epidemics and anti-malarial measures...	...	...	...	£600
Miscellaneous charges ...	...	...	...	1,338
For suppression of sleeping sickness ...	...	...	...	3,075
For dealing with venereal diseases ...	...	...	...	1,430
For dealing with plague and smallpox...	...	...	...	2,520
Equipment and upkeep of laboratory ...	...	...	...	150

Total other charges	...	...	...	<u>£9,113</u>
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HOSPITALS AND DISPENSARIES.

Personal Emoluments—

Pay of Nursing Sisters, Dispensers, Indian Medical Assistants and Native Attendants	...	...	...	...	£4,382
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Other Charges—

Medical and Surgical Stores	...	...	...	...	£2,000
Upkeep of Hospitals	...	...	...	...	900
Miscellaneous charges	...	...	...	...	1,556

Total other charges	...	...	...	<u>£4,456</u>
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TOTAL CHARGES—

Personal Emoluments	...	...	...	...	...	...	£22,127
Other charges	...	...	...	...	...	...	13,569
				Total	...	...	£35,696

SECTION II.

PUBLIC HEALTH.

(a) GENERAL REMARKS.

The conditions of general health were on the whole satisfactory. The number of cases treated, in place of the annual increase usually expected, shows a decrease to 90,730, with 298 deaths, from 112,624, with 236 deaths, in 1913, and 97,793, with 247 deaths, in 1912.

The above total does not include cases treated at special hospitals nor cases treated at the Field Dispensaries of the Northern Garrison and Marine Works (1,806, with 11 deaths) which are not included in the general statistical tables.

As shown in the preceding section, only a skeleton staff has been available for routine work since the beginning of August. The decrease in the number of cases treated is due primarily to this cause, *i.e.*, diminished facilities for attendance, and is made up mainly of cases of chronic disease or minor ailment. Owing to specially favourable health conditions obtaining during the latter half of the year the public health has not apparently suffered to any appreciable extent.

In a very large proportion of cases the diseases treated were not of a serious nature. Thus nearly 16,000 cases were treated for diseases of the skin, over 11,000 for coughs and bronchial catarrh, nearly 5,000 for conjunctivitis, over 4,000 for myalgia and over 7,000 others for various minor ailments.

The total number of communicable diseases treated was 18,290, against 20,363 last year. There was a noteworthy increase in the returns of black-water fever, dysentery, plague and smallpox, and a decrease in returns of

pneumonia, relapsing fever and venereal diseases. The increase in plague was confined to the northern portion of the Eastern Province.

According to native returns there was a further decrease in the number of deaths attributed to the following communicable diseases as compared with last year, viz., dysentery from 642 to 537, plague from 1,138 to 454, sleeping sickness from 708 to 466 and muhinyo (? undulant fever) from 2,240 to 1,809, while those attributed to smallpox increased from 337 to 895. These figures do not include the special plague return from Bukeddi, Teso and Lango, from which districts general native returns are not yet received. This special return shows 3,238 deaths against 2,154 last year.

1.—GENERAL DISEASES.

There were 1,060 cases dealt with under this head, of which 813 were returned as debility and 200 as anæmia. The corresponding figures last year were—debility, 1,119 cases, and 112 cases of anæmia.

2.—COMMUNICABLE DISEASES.

(1) MOSQUITO OR INSECT BORNE.

Malaria, relapsing fever, blackwater fever and sleeping sickness were the principal causes of sickness under this head.

Table A, in Section V. below, gives the number of cases of the chief communicable diseases returned from each station, their proportion to the total admissions and the percentage contracted outside the station.

Malaria.—There were 6,911 cases under treatment, with 20 deaths, as compared with 6,426 cases and 7 deaths last year. The percentage of admissions for malaria of the total admissions was 7·61, as compared with 5·7 in 1913, 6·29 in 1912 and 7·49 in 1911.

The highest admission rate was in the months of June, October and November, when between 650 and 700 cases were recorded. The lowest was in January and February.

There were 347 cases among Europeans with one death.

Seasonal influence was again marked, and an increased malarial incidence was probably due to an unusually heavy and continued rainfall.

The general type was mild, and about six-sevenths of the cases were of the æstivo-autumnal type.

Blackwater Fever.—There was again a considerable increase in the number of cases, and also in the mortality. As far as can be ascertained the increase was very nearly in proportion to the increase of susceptible population, a somewhat increased percentage incidence being probably accounted for by continued rains and an increase in the malarial incidence. The majority of the cases were recorded before the outbreak of war.

There were 82 cases reported, with 21 deaths, including 28 Europeans with 8 deaths, as against 58 cases with 12 deaths last year, including 19 Europeans with 2 deaths. The total death rate was 25·6 per cent. as compared with 20 per cent. in 1913.

Of the above total, 53 cases with 11 deaths are included in the returns from Government Hospitals and Dispensaries, 23 cases with 5 deaths were returned from the Church Missionary Society's Hospital, Kampala, and 1 case occurred in an ocean steamer in an officer proceeding on leave.

The largest number of cases were returned from Kampala 28, Jinja 11 (of which 4 originated elsewhere), Masindi 8 (of which 2 originated elsewhere), and Entebbe 6 (of which 1 originated elsewhere).

Further particulars are included in the special report on this disease already submitted.

Dengue Fever.—There were 4 cases recorded, as against 19 in 1913, 5 in 1912, and 69 in 1911.

Yellow Fever.—Is not known to occur.

Elephantiasis.—41 cases were returned, 15 under the heading of Lymphatic System, and 26 under Connective Tissue. Last year there were 43 cases, 14 returned under Lymphatic System and 29 under Connective Tissue.

Relapsing Fever.—There were 556 cases returned with 4 deaths. In 1913 there were 797 cases and 11 deaths; in 1912, 1,809 cases, with 13 deaths; and in 1911, 1,084 cases, with 17 deaths.

The admissions at Hoima were 87 as against 279 in 1913 and 559 in 1912, those at Kampala 188 as against 251 in 1913 and 878 in 1912. There was an increase at Fort Portal from 19 in 1913 to 139 in 1914.

The highest admission rates were from April to June. The lowest were from September to November.

Trypanosomiasis.—The decrease in Sleeping Sickness continues to be satisfactory. It is less marked in Busoga and the south-western lake districts, and conditions are more or less stationary in the Nile valley. Special investigations have been delayed or discontinued owing to the war, and the West Nile district has not yet been properly surveyed.

Unfortunately supervision of the carrying out of preventive measures, and certain local measures themselves, have had to be relaxed since the outbreak of war.

The deaths attributed to Sleeping Sickness in combined native and official returns were 499, as compared with 708 in 1913, 932 in 1912, and 1,487 in 1911. Of these deaths, 24 are assigned to Buganda, 357 to Busoga, 15 to Bunyoro, 65 to Ankole, 30 to Bukeddi and 8 to Toro. The corresponding figures last year were:—Buganda 57, Busoga 554, Bunyoro 41, Ankole 21, Toro 29, and 6 unknown. The deaths in Buganda Kingdom have fallen from 8,003 in 1905 to 24 in 1914.

(2) INFECTIOUS OR EPIDEMIC DISEASES.

Beri-Beri.—No case of this disease has as yet come under observation.

Cerebro-Spinal Fever.—There were 9 cases recorded, with 7 deaths. In 1913 there were 6 cases and 3 deaths; in 1912, 3 cases and 3 deaths; and in 1911, 12 cases and 10 deaths.

Of the 9 cases, 5 with 4 deaths occurred on the lake steamers, 2 cases occurred at Mbale and 2 at Namasagali.

Dysentery.—There was an increased admission rate. 601 cases with 34 deaths were recorded, as compared with 434 cases with 6 deaths last year.

The disease was more generally distributed, and there was an increase at all stations except Hoima and Mbarara. The most marked increase was at Kampala, where there were 130 cases against 47 in 1913. Outbreaks occurred in the prisons at Kampala and Mbale.

Native deaths returns show a still further decrease from those of last year.

Enteric Fever.—Of this disease there were 19 cases with 4 deaths, as compared with 1 case in 1913 and 9 cases with 1 death in 1912.

Infection was in the majority of cases traced to the lake steamers. The outbreak is further dealt with by the Medical Sanitary Officer in this report.

Erysipelas.—There were 4 cases treated, as compared with 1 in 1913 and 3 in 1912.

Gonorrhœa.—There were 3,869 cases treated, of which 1,532 were dealt with at the general hospitals and 2,337 at the special hospitals for venereal diseases. Last year there were 2,501 cases treated, of which 2,104 were dealt with at the general and 397 at the special hospitals.

Influenza.—There were 52 cases returned, as compared with 113 last year.

Leprosy.—Of this disease 38 cases came under observation, 18 of the nodular and 20 of the anæsthetic type. Last year 16 cases were returned, 3 of the nodular and 13 of the anæsthetic type.

Native returns give 226 deaths under this head, as against 280 last year. As previously mentioned, other diseases, such as tertiary syphilis, are probably included in this return.

Measles.—There were 54 cases, with 1 death, as compared with 38 cases and 1 death last year. Native returns show 256 deaths.

Undulant Fever.—23 cases were returned under this head, 22 of which occurred at Fort Portal. Native returns show 1,809 deaths from Muhinyo, under which head undulant fever is included among others.

Plague.—There were 36 cases under treatment, 18 of which were fatal. In 1913 there were 15 cases with 14 deaths, and in 1912, 27 cases with 25 deaths.

According to native returns the deaths ascribed to plague during the last three years were as follows :—

				1914.	1913.	1912.
Buganda	...	...	...	340	568	546
Busoga	...	...	...	88	468	667
Bukeddi	...	...	...	1,963	1,671	1,659
Teso	...	...	...	651	261	—
Lango*	...	...	...	624	222	159
Unyoro	...	...	...	4	40	13
Toro	...	...	...	21	—	9
Ankole	...	...	...	34	62	47
Nile	...	...	...		No returns.	
Total	...			<u>3,725</u>	<u>3,292</u>	<u>3,100</u>

* Taken from monthly returns.

This disease is further dealt with by the Medical Sanitary Officer, who also reports on the results of preventive inoculation, which was extensively used.

Pneumonia.—There were 163 cases, with 40 deaths, as against 200 cases, with 46 deaths, last year.

Smallpox.—There were 67 cases treated, with 24 deaths, as compared with 8 cases, none of which were fatal, in 1913.

According to native returns the deaths under this head during the past three years have been as follows :—

				1914.		1913.		1912.
Buganda	...	...	...	20	...	10	...	18
Busoga	...	...	...	870	...	317	...	482
Bukeddi	...	...	...	353	...	—	...	—
Teso	...	...	...	142	...	—	...	—
Lango	...	...	...			No record.		
Unyoro	...	...	...	—	...	7	...	8
Toro	...	...	...	4	...	—	...	—
Ankole	...	...	...	1	...	3	...	11
Nile	...	...	...			No returns.		
Total	...			<u>1,390*</u>		<u>337</u>		<u>519</u>

* This includes 495 from the northern parts of the Eastern Province, returns from which have not been received in previous years.

Vaccinations.—There were 13,687 vaccinations performed, as compared with 4,535 last year.

Of these 6,106 were successful, 831 had a modified result, 1,186 failed, and the result of 4,934 was unknown.

Tables showing the numbers vaccinated and percentage results are given under Section III.

Syphilis.—There were 4,798 cases treated at the general hospitals, as compared with 7,109 in 1913, 6,159 in 1912, and 3,690 in 1911.

In addition 1,173 cases were treated at the special hospital at Kampala and several hundred at other special hospitals or camps. All special work on venereal diseases had to be abandoned on the outbreak of war.

According to native returns the deaths attributed to syphilis during the last three years were as under :—

				1914.		1913.		1912.
Buganda	...	...	...	427	...	561	...	633
Busoga	...	...	...	426	...	435	...	313
Unyoro	...	...	...	595	...	591	...	221
Ankole	...	...	...	593	...	498	...	379
Toro	...	...	...	161	...	202	...	212
Nile	...	...	...			No returns.		
Total	...			<u>2,202</u>		<u>2,287</u>		<u>1,758</u>

Tuberculosis.—Under this head 21 cases, with 3 deaths, were returned, as against 37 cases, with 3 deaths, in 1913.

Yaws.—There were 330 cases recorded, as against 537 in 1913 and 508 in 1912.

(3) HELMINTHIC DISEASES.

There were 151 cases returned under Cestoda and 1,751 under Nematoda, as compared with 217 and 1,585 last year.

Of the Cestoda 110 are returned as *Tænia Saginata* and 41 as *Tænia Solium*.

Of the Næmatoda, 1,211 were classed under *Ascaris*, 135 under *Dracunculus*, and 380 under *Oxyuris*.

(b) EUROPEAN OFFICIALS.

There were 582 cases of sickness treated, with 3 deaths. In 1913 there were 485 cases, with no deaths ; in 1912, 385 cases, with 2 deaths ; and in 1911 395 cases, with 5 deaths.

Of the 582 cases, 381 were placed off duty, and the remainder continued to do duty while under treatment.

Of the total admissions, 186 were due to malaria ; 6, with 2 deaths, to blackwater fever ; and 12, with 1 death, to enteric fever. The other principal causes of admissions were :—Diseases of the digestive system, 123 cases ; injuries, chiefly of a slight nature, 51 cases ; and diseases of the respiratory system, 24 cases.

The following table shows the admissions under the four first-named heads, as compared with the two preceding years, and also the percentage which they formed of the total admissions :—

Diseases.	1914.		1913.		1912.	
	Cases.	Percentage of total admissions.	Cases.	Percentage of total admissions.	Cases.	Percentage of total admissions.
Malaria	186	31·9	155	31·9	138	36·0
Blackwater Fever ...	6	1·03	4	0·82	4	1·04
Digestive	123	21·13	101	20·82	68	17·0
Enteric	12	2·06	1	—	2	—

Four European Officials were invalided during the year, the causes of invaliding being respectively blackwater fever, neurasthenia, tuberculosis and leukæmia.

The following table shows the number of European Government Officials invalided during the past three years, with the causes of invaliding :—

Diseases.	1914.	1913.	1912.
Alcoholism	—	—	—
Blackwater Fever	1	1	—
Circulatory Affections	—	—	1
General Debility	—	—	—
Injuries	—	—	—
Malaria	—	—	—
Morphinism	—	—	—
Nervous and Mental Diseases... ..	—	2	3
Sleeping Sickness	—	—	—
Urinary Affections	—	—	—
Neurasthenia	1	—	—
Tuberculosis	1	—	—
Leukæmia	1	—	—
Total Invalided	4	3	4
Total number of European Government Officials	298	289	265
Percentage Invalided	1·34	1·03	1·51

TABLE SHOWING THE SICK, INVALIDING AND DEATH RATES
OF EUROPEAN OFFICIALS DURING 1914.

CHIEF STATIONS.	Total number of Officials resident.	Average number resident.	Total number on sick list.	Total number of days on sick list.	Average daily number on sick list.	Percentage of sick to average number resident.	Average number of days on sick list for each patient.	Average sick time to each resident.	Total number invalided.	Percentage of invalidings to total residents.	Total deaths.	Percentage of deaths to total residents.	Percentage of deaths to average number residents.	Number of cases of sickness contracted away from residence.
Entebbe	254	67	94	962	2·63	3·91	10·2	14·3	1	·39	1	·39	1·49	43
Jinja	82	12	54	312	·85	7·08	5·8	26·00	1	1·22	—	—	—	25
Kampala	92	41	69	360	·98	2·4	5·2	8·8	2	2·1	—	—	—	10
Mbale	42	5	14	97	·27	5·4	6·93	19·4	—	—	—	—	—	17
Mbarara	35	5	10	119	·32	6·4	11·9	23·8	—	—	—	—	—	7
Namasagali	7	5	31	32	·09	1·8	1·03	6·4	—	—	—	—	—	—
Total Uganda Pro- tectorate }	694	169	381	2,348	6·4	3·78	6·16	13·89	4	·59	3	·43	1·7	133

NOTE.—(A) In addition to above invalidings, an officer of the K.A.R. was invalided from Kismayu, B.E.A., and, a Treasury Clerk who developed mania on the voyage to the Protectorate was invalided from Mombasa without being allowed to land.

(B) An officer of the Uganda Railway Marine, who died in Namirembe Hospital, Kampala, in July, 1914, is not shown in the above table.

(c) NATIVE OFFICIALS, INCLUDING ASIATICS.

There were 1,141 cases treated, with 4 deaths, as compared with 942 cases and 3 deaths last year.

Of the total admissions, 1,008 were placed off duty and 143 continued to do duty while under treatment.

The chief causes for admission were :—Malaria, 573 cases ; blackwater fever, 12 cases, with 3 deaths ; diseases of the digestive system, 145 cases ; fever of uncertain origin, 53 cases ; and diseases of the respiratory system, 49 cases.

The chief causes last year were :—Malaria, 452 cases ; blackwater fever, 12 cases, with 2 deaths ; diseases of the digestive system, 141 cases ; diseases of the respiratory system, 47 cases.

Two Asiatic officials were invalided, the cause of invaliding being pulmonary tuberculosis.

TABLE SHOWING THE SICK, INVALIDING AND DEATH RATES OF ASIATIC
AND NATIVE OFFICIALS DURING 1914.

CHIEF STATIONS.	Total number of Officials resident.	Average number resident.	Total number on sick list.	Total number of days on sick list.	Average daily number on sick list.	Percentage of sick to average number resident.	Average number of days on sick list for each patient.	Average sick time to each resident.	Total number invalided.	Percentage of invalidings to total residents.	Total deaths.	Percentage of deaths to total residents.	Percentage of deaths to average number residents.	Number of cases of sickness contracted away from residence.
Entebbe	130	64	148	534	1·46	2·18	3·68	8·36	1	·76	—	—	—	30
Jinja	122	88	192	523	1·43	1·62	2·72	5·9	—	—	—	—	—	5
Kampala	96	49	226	754	2·07	4·2	3·3	15·4	—	—	—	—	—	—
Mbale	9	5	5	15	·04	·8	2·5	3·00	—	—	—	—	—	3
Mbarara	10	4	4	30	·08	2·00	7·5	7·5	—	—	—	—	—	—
Namasagali...	145	120	252	308	·84	·70	1·22	2·56	—	—	2	1·36	1·67	—
Total Uganda Protectorate }	618	375	1,008	2,638	7·22	1·92	2·61	7·03	2	·32	4	·64	1·33	61

(d) GENERAL EUROPEAN POPULATION.

The total European population was 1,017.

There were 1,137 cases treated, with 20 deaths, as against 953 cases with 8 deaths in 1913, 738 cases with 7 deaths in 1912, and 662 cases with 7 deaths in 1911.

Blackwater fever contributed 28 cases with 8 deaths, giving a very high mortality. There were also 3 deaths from malaria and 3 from enteric fever. Only 9 of the above 20 deaths are included in returns from Government Hospitals.

The following table shows the principal causes of sickness among Europeans for the last three years :—

Disease.	1914.	1913.	1912.
Malaria	347	325	235
Blackwater Fever	28	19	9
Relapsing Fever	7	3	10
Dengue	4	15	1
Enteric	17	1	2
Respiratory Affections... ..	48	36	30
Digestive Diseases	234	196	128

The following table shows the number and causation of deaths among Europeans during the past three years :—

Cause of Death.	1914.	1913.	1912
Blackwater Fever	8	2	3
Malaria	3	—	1
Enteric Fever	3	—	—
Pneumonia	1	—	—
Enteritis	—	1	1
Dysentery	1	—	—
Bright's Disease	1	—	—
Inanition	—	2*	2*
Cancer	—	1	—
Cardiac Failure	—	2	—
Valvular Disease of heart	2	—	—
Injury (Gangrene after)	1	—	—
Totals ...	20	8	7

* Infants.

(e) GENERAL NATIVE POPULATION.

The following figures, taken from the Blue Book dated March, 1914, show the native population of the Uganda Protectorate :—

Buganda	709,238
Eastern Province	1,296,497
Western „	531,741
Northern „	266,978
Rudolf „	100,000
Total	<u>2,904,454</u>

Births.—According to native returns there were 33,064 births in the districts from which these returns are made. Of these 16,152 were males and 16,912 females. Last year there were 36,284 births, 17,766 males and 18,518 females.

Deaths.—According to the same returns there were 29,590 deaths, against 32,612 last year in the same districts.

For the total population dealt with, *i.e.*, 1,441,916, the birth rate per 1,000 was 22·94 and the death rate 20·53. Last year the rates were 24·93 and 22·41 respectively.

Bunyoro shows both the highest birth rate and the highest relative death rate, *viz.*, 45·15 and 46·25 respectively. Buganda shows the lowest birth rate, *viz.*, 12·77.

Native populations—Births, Deaths and Rates per 1,000, for Provinces or Districts from which returns made, and percentage of Still Births to Total Births :—

1914.	Buganda.		Busoga.		Bunyoro.		Ankole.		Toro.		Total.	
Population... ..	709,238		246,000		104,937		266,700		115,041		1,441,916	
	Births.	Deaths.	Births.	Deaths.	Births.	Deaths.	Births.	Deaths.	Births.	Deaths.	Births.	Deaths.
	9,061	10,949	9,470	7,770	4,737	4,852	5,863	4,290	3,933	1,729	33,064	29,590
Rates per 1,000 ...	12·77	15·43	38·49	31·58	45·15	46·25	21·98	16·08	34·19	15·03	22·94	20·53
Still Births per cent. of Total Births	976 = 10·77 per cent.		360 = 3·8 per cent.		1,566 = 33·05 per cent.		622 = 10·6 per cent.		1,659 = 42·17 per cent.		5,183 = 15·67 per cent.	

SECTION III.

SANITATION.

(a) GENERAL REVIEW OF WORK DONE.

(1) ADMINISTRATIVE.

Visits of inspection were made during the year by Dr. C. J. Baker, before proceeding on leave in November, to the following places in the Eastern Province, *viz.*, Jinja (frequently), Mjanji and Namasagali. Kampala was also frequently visited by him during the year, and Masaka, Mbarara, Fort Portal and Mubendi.

An outbreak of plague at Jinja, lasting from July to October, necessitated frequent visits by him to this port.

The districts of Bukeddi, Teso and Lango were all toured by me during the year while acting as District Medical Officer, Mbale.

A European Sanitary Inspector has been stationed at Kampala since January 21st, and has done excellent work.

The Local Sanitary Boards appointed under the New Township Rules, which came into force during the year, are gradually increasing their usefulness, and their meetings are now being held more regularly in the larger townships, *e.g.*, Kampala and Jinja.

TOWN PLANNING.

In connection with this subject and the cotton industry, all Township Authorities were circularised requesting them to choose provisional areas in connection with townships, ports and trading centres which could be used as sites for ginneries, godowns, cotton markets, &c., such areas, although not actually within the townships, to be legally a part of them.

They were directed to choose areas well removed—if possible at least half-a-mile—from the residential quarters, including shops, Indian bazaar and native trading centres. The majority of these areas have now been chosen.

Various difficulties have arisen in connection with Professor Simpson's scheme of Town Planning for certain of the more important townships, *e.g.*, Kampala and Jinja, and his original plans have had to be modified in certain particulars.

It will probably be many years before these townships can be made to conform to the new plans proposed, the main difficulty in the way being the cost of removal of the Indian bazaars from their present positions in too close proximity to the European residential quarters to the new sites recommended for them.

A site on the lower slopes of Kololo Hill for the new bazaar at Kampala has now been definitely decided upon.

LAWS PASSED, &c.

Under the Infectious Diseases Ordinance, 1902, the following places in the Eastern Province were declared infected on account of plague occurring at them, *viz.*, (*a*) the port of Lale in the Teso District, from May 22nd to June 6th, and (*b*) the port of Jinja in the Busoga District, from July 29th to December 14th.

Under the Township Ordinance, 1903.—The Township Rules, 1914, a short description of the sections of which dealing with Public Health was given in the Report for 1913, came into force on January 30th, but were repealed and re-issued with slight alterations on December 7th.

Under these Rules very wide powers are given to the Local Sanitary Boards appointed by the Governor, which constitute the Township Authorities for carrying out the provisions of the Rules.

These Rules have already proved most valuable in providing for the removal of nuisances, the destruction of insanitary dwellings, the construction of new buildings on sanitary lines, the control of certain trades and those employed in them, *e.g.*, butchers, bakers, &c.; and their application will gradually become wider in scope as the progress of the Protectorate leads to more attention being paid to sanitary matters.

(2) PREVENTIVE MEASURES.

MOSQUITO AND INSECT-BORNE DISEASES.

*Malaria.*1. *Anti-Malarial Measures.*

(a) Anti-malarial gangs have been employed in nearly all stations during the year. Early in the year a circular was sent round giving definite instructions as to the duties of these gangs, as it was found that in many cases they were being used to supplement the labour employed on municipal measures, *e.g.*, clearing and up-keep of stations.

Regular monthly reports of the work done by the gangs were received from very few stations, so a circular was sent to all stations employing anti-malarial gangs reminding the Medical Officer in charge that these reports must be rendered regularly in future.

From the stations of Entebbe, Kampala and Jinja, fairly regular reports were received, and tables showing the number of collections of larvæ found monthly, with the locality where found, are given for Kampala for the last nine months of the year, the larvæ being differentiated into (1) anopheles, (2) other varieties. From the tables it will be seen that the favourite breeding places for anophelines are swamps, semi-permanent pools, *e.g.*, at brickfields and surface water drains (non-masonry).

During the present year it is hoped to differentiate the larvæ found in these towns into (i.) Anophelinæ, (ii.) Culicinae, (iii.) Stegomyia. In Jinja, during the ten months for which reports were received, 97 collections of larvæ were found, of which 12 only were anophelines, nearly all the latter being found near the Lake shore.

(b) Clearing of bush and long grass in townships and the filling in of large holes and depressions is done by the municipal staff, as far as is possible, but during the rainy season it is found almost impossible, with the money provided for this purpose, to keep pace with the rapid growth of vegetation. In the majority of stations, areas in the immediate vicinity of dwelling houses and elsewhere are being gradually cleared and planted up with French grass.

(c) Oiling or treating with Ialine of pools and excavations, which at the time did not permit of filling in, was carried on regularly in Kampala, some 70 of these being so treated during the year. Surface drains to the number of 25 in which larvæ were found were also oiled. The average number of men daily employed in oiling drains, pools, water-tanks or barrels was six, but many of the latter are regularly oiled by occupiers of premises. A table is attached giving particulars of the work done on these lines by the anti-malarial gang. Oiling has also been employed to a small extent at Entebbe.

In Kampala 39 notices were served during the year to remove conditions causing the breeding of larvæ, in Jinja 49 and in Entebbe 19; but in no case was a summons taken out.

2. *Major Measures—Reclamation of Swamps.*

The drainage of swamp areas at Masindi, Hoima, Mbale, Entebbe and Kampala has been kept up and in certain cases extended.

Money was also granted out of the anti-malarial fund for swamp drainage at the stations of Gulu and Fort Portal, and Rs. 1,200, provided out of Railway funds, was expended on the drainage of a large swamp at Namasagali.

At Mbale 2,000 yards of new drains were cut, the system on the north-eastern side of the station having been connected up with the Mawatala river ; a very necessary piece of work, which should prevent, in great part, the flooding of a certain low-lying part of the township, which always occurred during heavy rains, forming an ideal breeding place for mosquitoes.

The connecting up of the south-western system with the Mawatala river is a larger undertaking, and it will probably be necessary to get levels taken before this is attempted, but it is hoped to carry this work through as funds permit.

At Fort Portal 600 yards of new drains were cut, and at Masindi 1,000 yards.

The reclamation of the Nakivubo swamp at Kampala made very satisfactory progress during the latter part of the year, under the able and energetic supervision of the Senior Medical Officer, Kampala (Dr. Strathairn). Previous to this very little had been done, partly from lack of labour, but chiefly from want of control and supervision.

A scheme which has been agreed to by all the parties concerned, has now been drawn up, the main provisions of which are as follows :—

(A) The actual work of cutting and making the drains to be done by the Director of Public Works.

(B) The maintenance of the drains when cut to be done by prison labour under the control of the Public Works Department, a minimum of 25 prisoners to be employed constantly on this work.

(C) As much land as possible to be cleared and planted by the Agricultural Department, who have a vote for this purpose.

(i.) 25 prisoners in addition to those required under para. (B) to be employed on this work.

(ii.) Sweet potatoes or other suitable food crops to be planted, and the harvest, a monthly record of which is to be kept, handed over to the Prison Department, free of charge.

(iii.) Labour, other than convict, employed by this department to be used as is considered best by them, *e.g.*, in clearing, planting of shrubs, &c.

(D) The portion of the area leased to an Indian (A. A. Visram) to be drained by him under the supervision of the District Engineer on behalf of the Township Authority. If he neglects to do this, after notice has been served, the work to be carried out by the Public Works Department for the Township Authority, who should recover the cost of same.

(E) The District Commissioner to be responsible for seeing that no huts or cattle are allowed in the area, and that the cattle drinking-troughs are kept in satisfactory condition so as to prevent the accumulation of mud and pools of water in the vicinity.

(F) The Medical Officer, Kampala, to exercise general supervision, and to inspect and report on the swamp at least once a month, the report to show the average number of labourers (convicts as well as others) employed daily on the different works ; this information to be supplied to him monthly by the Departments concerned.

Since this scheme has been in operation, the work on the swamp has shown very satisfactory progress.

During the year a total length of 15,225 ft. ($2\frac{7}{8}$ miles) of new drains has been cut and graded. This includes 7,020 ft. of the main channel, and 8,205 ft. of subsidiary drains. Of the 7,020 ft. of the main channel cut, 3,826 ft. is the actual increase in the length, this being the distance it has been carried lower down than in 1913-1914; the remaining 3,194 ft. being due to a new cut, which was made to straighten out and deepen the main channel. The total length of main channel is 16,400 ft.

The area under sweet potatoes has been considerably increased over that of 1914, and there is a large area now cleared and planted, in addition to which a width of 20 ft. on each side of the main channel has been kept clear. Part of the area leased to A. A. Visram was taken over by the Township Authority for purposes of control, and is gradually being cleared and planted up with sweet potatoes. A channel 1,350 ft. long was also cut through this area to the well on the Bazaar road, which was rebuilt so as to include another spring. An iron roof for this well is urgently required to prevent contamination.

A channel has been cut leading to the Uganda Company's pipe line for their well to supply their ginnery. This pipe line, which was badly needed, was completed during the year, and gives the ginnery a good supply of water.

3. *Gauze Wire Protection.*

All residential houses for Government Officials built during the year have been provided with wired-in verandahs in lieu of screened doors and windows, and I think, on the whole, that the protection against mosquitoes so provided is more satisfactory than in the older houses, the majority of which are not completely protected, either by reason of certain exits or entrances being overlooked or left undone, or on account of faulty fittings to the screened doors and windows provided.

4. *Quinine Prophylaxis.*

Quinine is not as a rule taken regularly by officials except (i.) in the more malarious stations, (ii.) for some months after an attack of malaria, and (iii.) generally whilst on tour and for some time afterwards.

In the majority of stations the regular taking of quinine is not necessary, if the ordinary precautions against infection by malaria are taken.

The amount of quinine sold or distributed gratis by the Government during the year was :—

5-grain tabloids and tablets, 67,100.
In powders, 173 lbs. 2 ozs.

5. *Trypanosomiasis.*

Special investigations were continued during the year by Drs. Duke and Carpenter and Miss Robertson, and the work of superintending measures directed against the spread of Sleeping Sickness was taken over by Dr. Marshall.

It has not been considered advisable to continue the clearing on the Port-Masindi-Masindi Road which was undertaken as an experimental measure in consequence of Miss Robertson's discovery in the *Glossina morsitans* of that area of a trypanosome bearing morphological resemblance to the *Trypanosoma Rhodesiense*.

The area of the clearing at Namasagali has had to be increased on account of the occasional presence of *Glossina palpalis* in the station.

New clearings have been undertaken on the Mpologoma river and some of its tributaries, on account of the presence of *Glossina palpalis* and Sleeping Sickness on them. These rivers are, in the part infested with fly, really large papyrus swamps, with only occasional pools of open water in them.

The Mpologoma river forms the boundary between the Busoga and Bukeddi districts, and is crossed by various ferries, which consist of channels of varying width cut through the papyrus.

Fly is found in fairly large numbers along a large part of the Busoga bank, and in this area there is as a rule no population left. On the Bukeddi bank fly is generally difficult to find and is curiously localised, so that the clearings on both banks are being confined to the ends of the ferries and the neighbourhood of villages bordering the rivers, where there is sufficient population to attend under supervision to the upkeep of the clearings done. Villages in which the population proved insufficient to do the necessary clearing have been removed outside the fly area.

As the result of investigations undertaken by Miss Robertson in the Soroko Valley fly area to the north-east of Mount Elgon, during which investigations no pathogenic trypanosomes were found in the fly (*Glossina palpalis*) or in the blood of the game inhabiting the area, it was decided to repopulate the said area, certain precautions being taken in so doing.

The area in question is a long way from the nearest infected fly area, is separated from it by a wide stretch of fly-free country inhabited by a different native tribe, and no case of Sleeping Sickness has ever been discovered either amongst the natives who inhabit villages bordering the fly infested part of the area, or those who hunt in the area.

6. *Yellow Fever.*

No case yet recorded.

7. *Filariasis.*

Filaria perstans is frequently found in the blood of natives, whilst lymph scrotum and elephantiasis due to filaria are common amongst certain tribes in the Protectorate, *e.g.*, the Teso.

Very few cases come to the Government Dispensaries for treatment, and no special measures are taken against this disease.

8. *Spirillum Fever.*

This disease shows a still further decrease, the number of admissions for the year being 556, as against 797 in 1914, and it is quite rare now for a European to contract the disease.

A small outbreak occurred during November in the Police lines at Kampala, and the *Ornithodoros Moubata* was found in one of the infected huts, all of which were burned, with the result that no further cases occurred. The present Police lines are to be done away with, and new lines built on another site as soon as funds are available.

Table showing the number of premises, &c., where mosquito larvæ were found:—

KAMPALA TOWNSHIP.

European quarters	...	...	...	...	...	368
Indian quarters	...	...	...	...	...	581
Native quarters	...	...	...	...	...	12
Workshops, Ginneries, Factories, &c.	...	...	...	...	...	125
Open spaces, Surface water, Channels, Compounds, and other places	...	...	...	...	...	92
Total	...	...	...	...	...	1,178

MOSQUITO STATEMENT FOR THE YEAR 1914.
KAMPALA TOWNSHIP.

Number of tins removed from township.	Number of tins containing larvæ.	Number of uncovered barrels.	Number of barrels which were covered, oiled or taken away.	Number of tanks containing larvæ.	Number of tanks without covers.	Number of tanks covered ⁽¹⁾ or oiled ⁽²⁾	Number of pools found to contain larvæ.	Number of plants (favourable to the breeding of mosquitoes) removed.	Number of permanent breeding places in townships.	Number of notices served.	Remarks.
14,784	1,080	164	156	216	8	6 140	146	28	7	39	<i>i.e.</i> , swamp channels, brickfields, Uganda Co.'s Compound.

EPIDEMIC DISEASES.

Plague.—The deaths ascribed to plague for the year total 3,725, as against 3,292 in 1913.

Of this total the Eastern Province, consisting of the following districts—Busoga, Bukeddi, Teso and Lango, accounts for 3,326; the districts of Bukeddi, Teso and Lango, for which a special report is enclosed (Appendix II.), being responsible for 3,238 of these deaths.

During the year outbreaks occurred at Lale Port on Lake Kioga in the Teso district and at Jinja in the Busoga district, which necessitated these ports being declared infected for varying periods.

Appendix III., being reports by Dr. C. J. Baker, Medical Sanitary Officer, and Dr. H. L. Duke, Bacteriologist, deals with the outbreak at Jinja.

The chief features concerning this disease during the year were :—

(i.) Its spread in the Lango district. In 1913 cases were reported only from Kioga County, whilst during 1914 the disease gradually spread along the chief trade routes to the Counties of Dokolo, Kwania and Erute, in the order named, only two counties in the district not reporting cases. It has spread also very much in Kioga County, many centres previously uninfected having reported cases. The deaths were nearly trebled.

(ii.) The large increase reported, amounting to nearly 150 per cent., in the number of deaths in the Teso district. Part of this increase can, I think, be attributed to more certain and regular returns, due to the employment of more native inspectors, but the disease has spread in this district also.

(iii.) The large increase, over 85 per cent., reported in the number of deaths amongst the Bagishu in the Bukeddi district. This is due almost certainly to the largely increased intercommunication which has taken place between these hill tribes and the plain tribes, amongst the latter of whom plague has been endemic for many years.

(iv.) The outbreak at Jinja, which caused a considerable dislocation of steamer traffic on Lake Victoria during the time the port was infected.

Dr. Baker, Medical Sanitary Officer, in his report on this outbreak (Appendix III.), inclines to the view that it was introduced into Jinja by persons infected elsewhere in the Busoga district.

I think it is more probable that the disease was brought from Lale Port on Lake Kioga—which was declared infected with plague in May—by means of unginned cotton or other merchandise shipped before the port was declared infected, but after rats were found dying there.

Dead rats were found at Namasagali in June and a death occurred in a native at Namasagali about this time, which from the history given was almost undoubtedly due to plague.

Previous to the first report of the outbreak at Jinja, on July 27th, an Indian employed at A. A. Visram's ginnery, to which unginned cotton from Lale was being shipped, died under suspicious circumstances and rats had been dying in Jinja for some time previously.

I consider the probable sequence of events was :—

- (a) Plague at Lale Port.
- (b) Plague at Namasagali, conveyed from Lale by the Lake Kioga steamers.
- (c) Plague at Jinja, conveyed from Namasagali by the Busoga Railway.

The recommendations for the control of plague, chiefly in connection with the cotton industry in Eastern Province, made by Dr. C. A. Wiggins as Acting Principal Medical Officer and supported by Professor Simpson in his report, are being gradually carried out. They include :—

(A) *Measures to prevent the spread of Plague from the endemic areas to other Districts.*—The most important measure is the establishment of all ginneries within the endemic areas. All new ginneries erected are to be situated within these areas, and it is hoped eventually to get the ginneries at present situated outside the endemic areas re-erected within them.

(B) *Measures to deal with Plague in the endemic area.*

1. Increase of staff. A Medical Officer has been appointed to the Lango district. No extra Sub-Assistant Surgeons were available for plague work. The native plague and smallpox inspectors were increased from 16 to 30, and are distributed as follows :—

Bukeddi	...	...	...	14
Teso	...	...	...	9

2. Reporting of cases as well as deaths in the endemic area is done as far as possible by the native inspectors and chiefs.

3. *Prophylactic Inoculation.*—Owing to want of staff inoculations on a large scale were performed only at Jinja, during the outbreak there, and in a certain part of the Lango district. Bombay serum was used almost wholly for these inoculations.

The total number given in the Eastern Province was 21,665. Of these, 7,306 were performed in the Lango district and 13,501 at Jinja.

Some native tribes still object rather strongly to inoculation, but generally speaking they submit to it quite readily, and even ask to be inoculated.

In the Lango area in which inoculation was carried out on a large scale, its value, at all events as a temporary preventive measure, would seem to be proved, as for six months after the inoculations were performed very few cases occurred amongst the inoculated population, which previously had accounted for the majority of the deaths, and of the cases occurring after this period a large proportion recovered. The severity of the epidemic at Jinja too was in all probability considerably lessened by the extensive preventive inoculation carried out.

4. *Rat Destruction.*—This has only been carried out on a large scale in part of the Lango district, where Rs. 4,522 17 cents were paid out to natives for killing rats, the rate being one cent for a house rat and a half cent for a field rat. During the year 565,271 rats were paid for.

At the time of the outbreak at Jinja a reward of 5 cents per rat was offered by Dr. Baker, Medical Sanitary Officer, but very few rats were brought in, and eventually drives of certain areas were instituted with fair results, 196 rats being obtained during two days' desultory work by some 40 men. Previous to this only 42 rats were obtained in 25 days by means of poison and wire basket traps. Of 138 of these rats dissected and examined by spleen smear by Dr. H. L. Duke, 4 showed plague bacilli. Of these 1 was found dead, whilst 3 were caught alive and apparently healthy in traps.

I think the value of rat destruction as a preventive measure by natives in country districts has yet to be proved, but in localised epidemics like the one at Jinja energetic campaigns against rats should be instituted immediately; one of the most effective measures in such campaigns being organised drives by natives with sticks in areas surrounding buildings, as it would appear from the experience gained at Jinja that the rats live and breed chiefly in the open and enter the buildings mainly at night in search of food.

(c) *Measures for prevention of Plague in Towns and Trade Centres.*

All Township Authorities were circularised during the year requesting them to choose and recommend areas in connection with townships, ports, trade centres, &c., which they consider suitable for ginneries, godowns, cotton markets, &c., such areas to be well removed, if possible at least half a mile, from the residential quarters, including shops, the Indian bazaar and native trading centres, and although not necessarily actually within the townships, to be legally a part of them.

They were instructed to choose if possible a single area in each place which would be suitable for the erection of ginneries, godowns and cotton markets.

A permanent isolation segregation camp was constructed at Jinja during the year, and a similar camp commenced at Mbale. Sites for camps at Kampala and Entebbe were chosen.

In the Bukeddi and Teso districts camps for segregation of contacts have been built by the natives in all the larger villages, and are used for smallpox as well as plague contacts.

Four Thresh Disinfectors for use in connection with these camps have been purchased and received, but have not yet been erected at the different stations. Three small Clayton Disinfecting Machines were also received during the year, and were sent to the following stations, viz., Kampala, Jinja and Namasagali. One had already been received for Entebbe during 1913.

A system of mutual notification by wire on the occurrence of a case of plague, smallpox, enteric fever, cerebro-spinal meningitis or cholera on any lake steamer or at any port on Lake Victoria has been arranged between the authorities in Uganda and East Africa, the parties concerned in the notification being the General Manager, Uganda Railway; the Principal Sanitation Officer, Nairobi; the Medical Sanitary Officer, Entebbe, and the Port Medical Officers. Weekly infectious diseases returns for the different ports are also interchanged between the above mentioned parties, and notification is sent on the occasion of a port becoming free from infection.

Cerebro-Spinal Meningitis.—A serious outbreak of this disease occurred amongst a batch of native porters sent down to East Africa in connection with the military operations, and I believe a good many deaths occurred amongst these porters.

Later, Kisumu Port became infected, probably by means of these porters when they were returning to Uganda, and 5 cases occurred amongst a batch of returned porters on their arrival at Jinja. These were promptly isolated, and no further cases were reported from any of the other lake ports. Only 4 other cases were reported from the rest of the Protectorate.

Smallpox.—This disease was very prevalent in certain parts of the Busoga district and in Pallisa County, Bukeddi district, during 1913.

During 1914 it assumed epidemic proportions in Busoga, and gradually spread north across the Mpologoma River and certain arms of Lake Kioga into the Bukeddi and Teso districts, serious outbreaks occurring in Pallisa County and the Bugishu Hills, in the former district, and in Serere and Kumi Counties in the latter district.

A few cases also occurred in Lango district early in the year. Later in the year the disease spread west from Jinja across the Nile into Buganda.

A total of 1,390 deaths is recorded chiefly from native returns, as compared with 457 in 1913. Only 25 of these deaths were returned from districts other than those mentioned above.

The case mortality has varied very much in different parts, and the figures given cannot be considered very reliable, as undoubtedly many cases which recover are not reported, and this would show the case mortality higher than it really is.

In the districts of Bukeddi, Teso and Busoga the case mortality calculated from the figures available was over 36 per cent.

Vaccination.—The native plague inspectors employed in the Bukeddi and Teso districts were instructed in the technique of vaccination, and did very useful work in vaccinating contacts and people living in villages in which outbreaks of smallpox occurred.

These inspectors also report to the Medical Officers all cases and deaths occurring from smallpox, and it is their duty to see that the instructions issued to chiefs and others as regards isolation of sick and segregation of contacts are effectively carried out, and to report to the Medical Officer or District Commissioner if they find the chiefs are neglecting to carry out their instructions.

Senior Native Attendants at Dispensaries, &c., have also been taught how to vaccinate so that, given a larger and more regular supply of lymph, the

number of vaccinations performed would have been very much increased in those districts in which vaccination was taken up seriously on account of the presence of smallpox in them.

Four Native Vaccinators were engaged for the Buganda Province on account of the spread of the disease towards Kampala, and arrangements were made for the employment of others in the Busoga district.

The following table gives the number of vaccinations recorded, with the lymph used and the percentage of successful results with the different kinds of lymph :—

Lymph used.	Successful.	Modified.	Failed.	Unknown.	Totals.	Number of vaccinations of which result is known.	Percentage successful (including modified).
Nairobi dried ...	1,679	111	547	383	2,720	2,337	76·5
Nairobi glycerinated	1	6	4	5	16	11	64
Lister dried ...	3,643	693	904	4,109	9,349	5,240	83
Lister lanolinated...	751	17	357	150	1,275	1,125	68
Arm to arm ...	32	4	4	287	327	40	89
Totals ...	6,106	831	1,816	4,934	13,687	8,753	79

In all 13,687 vaccinations were performed, of which 327 were arm to arm. The percentage of successful results (including under successful “modified”) for all cases was 79, the most successful lymphs used being the dried, that from the Lister Institute heading the list with 83 per cent., whilst Nairobi dried gave 76·5 per cent. of successes. The large number of cases in which the result was unknown is accounted for by a majority of the vaccinations being done in country districts, which it was found impossible to visit a second time.

Dysentery.—An undoubted case of true dysentery is very rarely seen amongst Europeans living in the Protectorate, and many cases amongst natives which are returned as dysentery are in reality severe cases of “diarrhoea” or “gastro-enteritis.” Out of 601 cases treated at Government Dispensaries 34 died, giving a case mortality of 5·6 per cent. only, which is much lower than one would expect if the majority of cases were true dysentery.

In certain series of cases the attack in natives would seem to have been brought on by unsuitable diet (*e.g.*, grain badly ground and insufficiently cooked), continued for longer periods than usual without variety, owing to a shortage, due to drought, of other foods such as bananas.

This, combined with overcrowding, was, I am of opinion, the main factor in the causation of the outbreak at Mbale jail, which was probably true dysentery of a bacillary nature, and accounted for 10 deaths amongst 18 prisoners attacked. A change of diet and an improvement in the sanitary condition of the jail soon brought this outbreak to an end.

Leprosy.—The question of the segregation of lepers was a subject of discussion between the Principal Medical Officers, East Africa and Uganda, it being suggested by the former that one of the islands on Lake Victoria might be cleared so as to render it free from *glossina palpalis*, and utilised as a Leper Settlement for the two Protectorates.

The Provincial Commissioners of Uganda, to whom the matter was referred for their opinion, were unanimous in considering that the proposed

scheme would be impracticable without drastic legislation, and that generally speaking it might do more harm than good, so the scheme was dropped, at all events for the time being, as far as Uganda was concerned.

This question is bound to come up again in the near future, and will have to be considered more thoroughly in all its aspects.

The one camp which was started in 1912 is still being kept up, and the inmates, of whom there were 29 during the year, appear to be more contented with their lot, probably because they are now producing their own food to a great extent.

Enteric Fever.—There were 21 cases diagnosed as such in the Protectorate throughout the year, with 4 deaths, but the number of actual cases which occurred is probably in excess of this, as during the period in which the majority of the cases were occurring, and particularly at the commencement of this period, there were several cases of illness simulating enteric, which were not diagnosed as such at the time.

Towards the end of the year a number of cases occurred amongst Europeans who had recently returned from leave to England, the disease as a rule attacking them from one to three weeks after the date of their arrival in the country. Four of these cases had travelled by the same train from Mombasa to Kisumu and thence by the same trip of the s.s. "Clement Hill" to Uganda.

During the same period cases of acute gastro-enteritis simulating ptomaine poisoning were very common amongst passengers travelling by the s.s. "Clement Hill," and some of the cases which afterwards developed enteric suffered originally from symptoms of acute gastro-enteritis, generally within a day of landing from the ship, but sometimes before disembarking. There were eight cases of this disease amongst the passengers who travelled on the s.s. "Clement Hill" at the same time as the four mentioned above who subsequently contracted enteric.

In seven other cases the persons attacked had recently travelled, or had partaken of food or drink (including soda-water), on one of the steamers of the Uganda or Busoga Railway Marine Service, and of the 21 cases reported it appears quite possible and even probable that as many as 15 contracted the disease on the routes served by the Uganda and Busoga Railway Marines.

Of the six remaining cases, three apparently were contacts, two occurred at Kampala, and one, an isolated case, at Mityana, some 47 miles from Kampala. This last case had no apparent connection with any of the other cases.

Of five cases probably enteric, but not diagnosed as such, four had recently travelled on the s.s. "Clement Hill" and the fifth possibly got infected on one of the ships of the Busoga Railway Marine.

Of the 21 reported cases, there were 17 Europeans with 2 deaths, 3 Asiatics with 2 deaths, and one native, the latter being a fireman employed on the s.s. "Winifred."

There was also a case reported from Kisumu during the period when the majority of cases were occurring in Uganda, and this case was off the s.s. "Usoga."

The cases which occurred on the Busoga Railway Marine route appeared about the same time as the cases occurring on the route served by the Uganda Railway Marine, and, although the infection was not definitely traced to the

ships, grave suspicion attached to them, so that the attention of the Medical and Railway Departments in East Africa was drawn to the dangerous condition of the water supply, latrine arrangements, &c., which existed on these ships, and an enquiry into these conditions was instituted, the result of which was still pending at the end of the year. I am of the opinion that the infection was newly imported into Uganda by the steamers on Lake Victoria either by means of a human carrier or an infected water or soda-water supply.

Either of these theories would account for the cases occurring on the Busoga Railway Marine route, as the soda-water, fresh vegetables, &c., supplied to the vessels of this service are obtained from the same source as those supplied to the vessels of the Uganda Railway Marine Service, and as the result of an investigation of the former trade route which I made, I could obtain no evidence of infection of any of the ports on this route, and no case of enteric occurred along it in which the infection could not have been contracted on one of the vessels of this service.

Helminthic Diseases—Ankylostomiasis.—All Medical Officers and Sub-Assistant Surgeons were circularised by the Principal Medical Officer early in the year on this subject, and were asked to make enquiries in accordance with the recommendations of the Advisory Medical and Sanitary Committee for Tropical Africa, and to send reports to the Medical Sanitary Officer, as soon as they had collected sufficient material. No reports on the subject were received during the year.

(3) GENERAL MEASURES.

SEWAGE DISPOSAL.

The system of "trenching" is employed in nearly all stations of any size, the method of collection of night soil being by means of pails and carts or by pails only in the smaller townships, in some of which the night soil so collected is thrown into cess pits of native type instead of being "trenched," these cess pits being periodically filled in.

In Kampala by the end of the year all night soil was being trenched, the incinerators not having proved capable of dealing with it satisfactorily.

In Jinja the two incinerators appear to be working well, and practically all night soil from the township is being satisfactorily disposed of by them. Jinja is a much smaller community than Kampala, and they have a more plentiful and better supply of suitable fuel there. The practice of throwing the night soil into the Nile at Jinja was discontinued during the year.

New Public Latrines for natives were built during the year at the following places: Kampala (2), Masindi (2), Fort Portal (2). The type of latrine put up recently in Kampala by the Public Works Department is a great improvement on the older ones, and, if it proves satisfactory, should be adopted as the standard type for all townships. Many of the older types are most insanitary. An attempt is being made to introduce a standard type of latrine and pail in the larger townships, *e.g.*, Kampala and Jinja.

DISPOSAL OF REFUSE.

Street and house refuse, as well as grass, &c., removed from compounds and open spaces within the townships, is either burnt, buried or dumped in heaps in suitable places. In the townships of Kampala and Jinja most of the refuse is burnt in incinerators, whilst in the other townships the greater part of it is either buried or dumped, only the drier refuse being burnt. A drying shed for refuse was built at Kampala during the year.

The introduction of a standard type of dustbin was discussed by the Townships Authorities at Kampala and Jinja, but has not yet been adopted by them.

In the majority of townships old cement drums or boxes are used as dustbins, being provided either by the Township Authority or by householders themselves.

Shortage of labour and bullocks has again affected the collection of refuse, particularly in Kampala, where many of the municipal bullocks died from trypanosomiasis.

WATER SUPPLY.

Improvements have been made in the surface water wells at Kampala, and in respect of the drawing of drinking water from the Nile at Jinja. A sub-committee of the Township Authority, Kampala, was appointed to consider the question of a pipe-borne water supply for the township, but no report was received from it during the year.

DRAINAGE.

413 yards of masonry surface drains (including culverts) were laid down in Kampala by the Public Works Department, and 602 yards by private individuals or firms. In Entebbe 60 yards were laid down privately, and in Masindi 53 yards by the Public Works Department.

The length of earth drains or ditches periodically cleaned and attended to by Municipal labour has been considerably increased during the year in the more important townships, and the drainage of swampy areas within or near certain townships has been continued and extended.

CLEARANCE OF BUSH, UNDERGROWTH, &C., AND PLANTING OF SHORT GRASS.

In townships this is done as far as possible by money provided out of Municipal funds, but during the rains this money is quite insufficient to do all that is required.

In certain stations, *e.g.*, Entebbe and Jinja, a great deal of clearing is done as an anti-sleeping sickness measure, the money for this being provided out of the vote for the suppression of sleeping sickness, and in a few special cases small sums are granted from the vote for anti-malarial measures to supplement Municipal funds.

PRISONS.

The question of the overcrowding of native prisoners in Government jails reached an acute stage during the year, mainly as the result of a rather serious epidemic of dysentery in the Mbale jail, which accounted for 10 deaths amongst 18 prisoners attacked.

The overcrowding in this jail has been marked ever since it was built in 1911, and has now reached most serious proportions, a result due chiefly to the fact that long-sentence prisoners of the Lango, Teso and Bugishu tribes, who used to be transferred to the jails at Kampala and Jinja, are now no longer sent there, as their health was found to suffer considerably at these places. The temporary jails in outlying districts are also frequently overcrowded.

The additions during the year to the Central Jail, Kampala, consisted of two accommodation cells of 57 and 34 feet in length, eight solitary cells and

another latrine, and further cell accommodation is to be added this year. An extension to the Mbale jail is also to be built this year, and arrangements will be made by which the accommodation in certain of the temporary jails in outlying districts, *e.g.*, Teso and Lango, will be increased.

In the Uganda Prisons Ordinance of 1909, no mention is made of floor space for prisoners, and as it was considered necessary that there should be some definite rule on the subject, certain recommendations stating what was considered to be the minimum floor space per prisoner necessary for the preservation of health, were made and were approved.

(b) MEASURES TAKEN TO SPREAD KNOWLEDGE OF HYGIENE
AND SANITATION.

The measures mentioned in last year's report have been continued and amplified.

The anti-malarial gangs and native Plague and Smallpox inspectors are instructed in the simple facts about hygiene and sanitation arising in connection with their particular work.

(c) RECOMMENDATIONS FOR FUTURE WORK.

ADMINISTRATIVE.

The appointment of a Sanitary Officer for the Eastern Province, or for that part of the Protectorate lying east of the Nile, which is the area chiefly concerned in the production of cotton, and in which plague is endemic and is extending as the country opens up.

The appointment of a Medical Officer of Health for Kampala.

Both these appointments were recommended by Professor Simpson, and the latter one by Dr. Baker, Medical Sanitary Officer, in his Annual Report for 1913. I think the former appointment is quite as necessary, if not more so, than the latter.

The need of a more stringent application of Sections 67-69 of the Township Rules (No. 2) 1914, is seen in Kampala, where buildings which contravene some provision of these Rules are frequently erected, the reason being that the buildings for which permits to erect have been granted by the Township Authority are not as a rule inspected during the course of their erection or after completion. I would recommend that the Sanitary Inspector, Kampala, who is, I understand, a certified "Building Inspector," be appointed "Inspector of Buildings," Kampala, for the purpose of seeing that the provisions of these Rules are duly carried out.

I would recommend also that all plans of Government buildings to be erected should be submitted to the Township Authorities in accordance with Rule 63 of the Township Rules (No. 2) of 1914.

The appointment of a Sanitary Engineer for the Protectorate has already been recommended.

PLAGUE AND SMALLPOX.

The chief measures necessary for the prevention and control of these diseases have already been recommended.

The completion of the Isolation Hospitals and Segregation Camps already sanctioned is an urgent matter.

An increase of staff, more particularly in the Eastern Province, is urgently required in order to cope with these diseases, so that anti-plague inoculation and vaccination may be more thoroughly carried out.

The spread of plague in Lango district during the year is a serious matter, and an epidemic of smallpox in the Bukeddi, Teso and Busoga

districts proved difficult to cope with from want of staff and an inadequate supply of lymph.

In this connection, and in view of the present serious epidemic of small-pox which is gradually spreading through the Protectorate, I think provision for producing our own lymph on the spot should be made as soon as possible. The supply of lymph obtained from Nairobi is insufficient to meet present demands, its cost prohibitive, and its quality is doubtful.

With an increase of native vaccinators, the passing of a "Vaccination Law," and the production of our own lymph, vaccination would in time become universal, and this of course is the goal to be aimed at.

GENERAL MEASURES.

The vote for municipal expenditure is an important one, and must increase largely as the country develops and more townships are declared. At the present time the money provided is insufficient to meet the demands made upon it, and should be increased.

I would recommend that in future the upkeep of all works connected with clearing or swamp drainage done in townships under special votes, *e.g.*, for the suppression of sleeping sickness, anti-malarial measures, should be estimated for under Municipal Expenditure, so that the money provided under these special votes can be used more for new undertakings.

RECLAMATION OF SWAMPS.

The works in progress at various stations should be continued and extended where found necessary.

The completion of the scheme at Mbale by the carrying through of the main drain on the south-west of the township to the Namatala river is an important matter.

As regards the swamp drainage at Kampala, numerous subsidiary drains still require to be cut, and the drainage of the Kitante river should be undertaken during this year.

In order to have complete control of the swamp area which may affect the health of the township, I think it is most important that the Township Authority should include more of the area within the township, and that native owned land in the area so included should be taken over by the Government.

At present little can be done with these areas, and numerous breeding places for mosquitoes, *e.g.*, old brickfields, holes left by the removal of sand and clay, exist upon them.

Nobody should be allowed to make bricks, or take sand or clay from any part of the swamp-area which may affect the health of the township, and it is for this reason chiefly that I recommend the inclusion of further areas within the township limits.

It will probably be found more satisfactory for the Public Works Department to take over the drainage, &c., of the Indian-leased area in the swamp, as this is always found to be in rather a neglected state.

It is most important that all holes and excavations left from the making of bricks, removal of sand, clay, &c., should be filled in, and I am of opinion that a special gang of labourers should be told off to do this work.

The provision of a catch-water drain round the foot of the hill bordering the swamp, already recommended, should be proceeded with.

Professor Simpson in his report stated that he was doubtful whether the main drain would prove to be of sufficient width and depth to carry off all the water flowing into it at times of heavy rainfall, and during this last year it was

found on more than one occasion that the water overflowed the banks of the main channel and flooded the adjoining land, particularly towards the lower end of the swamp.

As more subsidiary drains are cut, and the water in the main channel thereby subjected to more rapid increases of volume, particularly in flood time, I think it will be found necessary in the near future to both deepen and widen this channel and also to extend it further down towards Port Bell.

The two cattle troughs which are situated near the main drain should have pipes or cemented channels connecting them with it to prevent making the areas surrounding them swampy and suitable breeding places for mosquitoes. Fences should also be put up in places to prevent cattle straying into the drained area.

WATER SUPPLY.

The need of a pipe-borne water supply for Kampala becomes more urgent as the township grows, and pipe-borne supplies should also be provided for Entebbe, Jinja and Namasagali.

I believe the supply for the last-named township is to be installed by the Uganda Railway during the present year. A sub-committee to prepare a scheme for Kampala has been formed.

SEWAGE DISPOSAL.

A standard type of latrine pail should be adopted for the more important townships, and the double-bucket system should be used in the townships of Kampala, Entebbe and Jinja.

In the future some method of disposal of night soil other than that of trenching will almost certainly have to be adopted at Kampala, but at the present time this method is working quite satisfactorily.

The small incinerators appear to work satisfactorily in places where there is an adequate supply of suitable fuel, *e.g.*, Jinja, but they have not proved a success in Kampala where special fuel is required.

RUBBISH DISPOSAL.

The provision of permanent receptacles for the collection of rubbish is required in Kampala at certain parts where it is constantly being thrown into the public roads.

A regulation pattern of covered dustbin should be adopted by the Township Authorities, and in the larger townships all householders should be compelled to provide themselves with such dustbins.

DRAINAGE.

To improve the sanitary condition of Kampala, the chief need is for a thorough system of surface masonry drains combined with a piped water supply by which such system could be flushed out as required.

Until these are provided the sanitary state of Kampala cannot be anything but bad.

More masonry drains are also required for Jinja and Entebbe.

PRISONS.

Further cell accommodation is to be provided at the Central Jail, Kampala, and at Mbale Jail during this year, but this will not be sufficient to meet all requirements, and provision for further extensions of these jails during 1915-16 should be made.

J. M. COLLYNS,
*Acting Medical Sanitary Officer,
Uganda Protectorate.*

SECTION IV.

HOSPITALS AND DISPENSARIES.

ACCOMMODATION.

The Hospital accommodation in the Protectorate was as follows :—

There was one Government Hospital for Europeans, situated at Entebbe. This Hospital has four single-bed wards and one two-bed ward, giving a total accommodation of six beds.

There was one Asiatic Hospital at Entebbe with three beds. Apart from this, Asiatics are treated either in their own houses or in the Native Hospitals.

The accommodation for natives was as follows :—

	No. of Beds.		No. of Beds.
Entebbe Civil ...	29	Brought forward ...	110
Do. Isolation ...	4	Masaka ...	6
Bombo Military ...	11	Masindi ...	8
Butiaba Civil ...	2	Mbale ...	8
Gulu ...	6	Mbarara ...	7
Hoima ...	8	Fort Portal ...	6
Kampala ...	26	Namasagali ...	8
Jinja ...	22	Soroti ...	8
Lira ...	2		
Carried forward ...	110	Total ...	161

At each of the above stations a Dispensary is attached to the Hospital. There were also Dispensaries, with buildings of a temporary nature, at Butiaba, Gulu, Kitgum, Soroti and Lira.

In addition to the General Hospitals and Dispensaries, there were in use two Special Hospitals for Venereal Diseases, with treatment rooms attached, at Kampala and Masaka respectively. The hospital at Kampala had to be closed down on the outbreak of war. There was also a Sleeping Sickness Camp at Kyetume.

The total number of cases treated at the General Hospitals and Dispensaries was 90,730, with 298 deaths. Of these, 1,658, with 216 deaths, were in-patients, and 89,150, with 83 deaths, were out-patients.

The total number treated in 1913 was 112,624, with 236 deaths. Of these, 1,979, with 155 deaths, were in-patients, and 110,645, with 81 deaths, were out-patients.

In addition to the above total, 650 cases with 3 deaths were treated at the Nile Field Dispensary; Mount Wati, 46 cases at the Sambwe Sudd Cutting-field Dispensary, 1,110 cases with 8 deaths on the Northern Patrol, and 12,135 cases of Venereal Disease at the Special Hospitals at Kampala, Masaka and Mbarara.

The number of new admissions to the Sleeping Sickness Camp was 18, as against 45, 115, 153 and 592 respectively in the preceding four years. The number of cases remaining in camp at the end of the year was 179, deaths during the year 44, discharged 33, remaining at the end of this year 132.

DISEASES TREATED.

The most important or most prevalent communicable and infectious diseases which were treated at the General Hospitals and Dispensaries are recorded above, under Section (a) (ii.).

In addition, there were 330 cases of Yaws, 2,710 cases returned as Pyrexia, or fever of uncertain origin, and 104 cases of Mumps.

General Diseases were 1,060 in number, with 6 deaths.

Diseases of the Nervous System accounted for 1,962 cases. The majority of the cases were returned under Neuralgia and Headache; 27 cases were treated as in-patients.

Diseases of the Eye numbered 5,308, including 4,997 for Conjunctivitis.

Diseases of the Ear were 1,509 in number.

Diseases of the Nose were 820 in number, and 6 were in-patients.

Diseases of the Circulatory System were 89, with 9 deaths, 7 cases, with 5 deaths, being treated in Hospital.

Diseases of the Respiratory System amounted to 12,827, with 18 deaths. Of these, 82 cases, with 12 deaths, were in-patients. These cases included 11,398 returned as Bronchitis, 6 of which were fatal, 354 Pleurisy, and 50 of Broncho-pneumonia, 8 of which were fatal.

Diseases of the Digestive System contributed 13,016 cases, of which 26 were fatal. Of these, 133, with 13 deaths, were treated in Hospital. Dyspepsia accounted for 2,241 cases, Diarrhoea 2,202, Constipation 3,901, and Colic 1,738.

Diseases of the Lymphatic System were 882, including 15 cases, with one death, treated as in-patients.

Diseases of the Urinary System were 66, with 9 deaths, and 8 were in-patients.

Diseases of the Generative System numbered 983. Of these, 582, with 2 deaths, were males and 401, with 9 deaths, females, including 46 males and 17 females treated in Hospital.

Diseases of the Organs of Locomotion contributed 5,552 cases, of which 4,261 were classed as Myalgia.

Diseases of the Connective Tissue gave 1,662 cases, including 929 of abscess, with one death. In-patients numbered 78 with 3 deaths.

Diseases of the Skin accounted for 15,700 cases, of which 5,939 were classed as Ulcers, 4,140 as Scabies, 3,174 as Itch, 358 as Eczema and 547 as Boils. There were also 777 cases returned as Oriental Sore.

Injuries, of which 8,159, with 11 deaths, are returned as Local and 42, with 7 deaths, as General, accounted for 8,231 admissions. Of this total, 287 were treated in Hospital.

Tumours were 44 in number.

Poisons caused 14 admissions.

Snake-bites were 30 in number.

Animal Parasites.—Among these were recorded 151 cases of Cestoda and 1,751 of Nematoda, the latter including 1,211 cases of Ascaris, 380 of Oxyuris and 135 of Dracunculus.

Insecta.—773, chiefly jiggers.

The number of surgical operations recorded was 1,382, of which 126 were performed on in-patients.

TABLE A.

RETURN OF CASES OF THE CHIEF COMMUNICABLE DISEASES TREATED AT THE CHIEF GOVERNMENT HOSPITALS AND DISPENSARIES IN 1914.

STATIONS.	MALARIA.				BLACKWATER FEVER.		RELAPSING (TICK) FEVER.				DYSENTERY.				DENGUE FEVER.		ENTERIC FEVER.		PLAGUE.		SMALL-POX.	
	Cases.	Deaths.	Percentage of total Admissions.	Percentage con- tracted outside Station.	Cases.	Deaths.	Percentage of total Admissions.	Percentage con- tracted outside Station.	Cases.	Deaths.	Cases.	Deaths.	Percentage of total Admissions.	Percentage con- tracted outside Station.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Bombo ...	384	1	6.85	—	1	1	—	—	2	—	11	—	.19	—	—	—	—	—	—	—	—	—
Butiaba ...	348	—	16.65	86.20	1	—	.43	—	9	—	56	—	2.67	71.42	—	—	—	—	—	—	1	—
Entebbe ...	703	1	13.52	25.60	6	1	.34	44.4	18	—	30	1	.57	23.3	—	—	9	2	—	—	—	—
Toro ...	1,961	—	9.16	86.48	—	—	.64	97.12	139	—	50	1	.23	90.00	—	—	—	—	—	—	—	—
Hoima ...	307	—	4.45	73.29	—	—	1.26	77.01	87	—	63	—	.91	52.38	—	—	—	—	—	—	2	—
Jinja ...	326	2	6.68	10.73	11	2	—	100.00	3	—	23	3	.47	17.36	—	—	6	2	23	14	47	16
Kampala ...	945	13	7.68	2.53	9	2	1.52	90.42	188	1	130	13	1.05	9.23	4	—	—	—	—	—	—	—
Masindi ...	336	1	4.68	61.30	8	2	.29	85.71	21	—	86	2	1.19	76.74	—	—	—	—	—	—	—	—
Mbarara ...	637	—	12.57	100.00	—	—	.43	45.45	22	2	5	1	—	60.00	—	—	—	—	—	—	—	—
Total, or Average } for Protectorate	6,911	20	7.61	—	53	11	.61	—	556	4	601	34	.66	—	4	—	19	4	36	18	67	24

TABLE B.

The following table shows, by Stations, the total number of cases treated, with deaths, at Government Hospitals and Dispensaries, and also the number treated as In-Patients during the years 1914 and 1913 :—

STATIONS.	1914.				1913.			
	Total Cases.*		In-patients.		Total Cases.*		In-patients.	
	Treated.	Deaths.	Treated.	Deaths.	Treated.	Deaths.	Treated.	Deaths.
Bombo	5,603	2	65	1	11,859	6	205	—
Butiaba	2,090	1	33	—	1,911	2	42	2
Entebbe—European Hospital	263	3	45	3	266	1	40	1
Entebbe—Civil Hospital ...	4,403	14	246	11	6,484	19	329	16
Entebbe—Military Hospital	534	1	51	1	641	—	168	—
Fort Portal	21,399	8	47	4	18,574	3	56	3
Gondokoro	—	—	—	—	1,237	2	—	—
Gulu	2,018	10	22	5	2,416	12	3	1
Hoima	6,886	5	69	3	10,021	13	128	6
Jinja	4,878	51	228	44	5,438	20	159	16
Kakindu	—	—	—	—	1,930	3	41	2
Kampala—Civil Hospital ...	12,290	78	213	58	12,581	42	263	35
Kampala—Military Hospital	—	—	—	—	26	—	—	—
Kitgum	2,324	4	—	—	844	—	—	—
Kumba	1,005	2	—	—	1,801	5	74	4
Kumi-Soroti	2,489	12	71	3	2,546	11	50	9
Lira-Nabieso	843	6	49	6	—	—	—	—
Masaka	4,760	11	88	7	5,788	9	108	9
Masindi	7,172	12	51	9	9,060	9	76	7
Mbale	4,404	58	114	46	4,662	37	113	24
Mbarara	5,066	13	129	11	8,168	14	99	14
Nabieso†	—	—	—	—	2,345	1	—	—
Namasagali	2,303	7	137	4	—	—	—	—
Nimule	—	—	—	—	1,544	7	25	6
Northern Garrison	—	—	—	—	2,482	20	—	—
Totals	90,730	298	1,658	216	112,624	236	1,979	155

* Includes *all* cases whether treated as Indoor or Outdoor cases.

† Hospital transferred to Lira.

SECTION V.

SCIENTIFIC.

The following reports were submitted direct to the Royal Society :—

Progress reports, two in number, by Mr. W. F. Fiske, on “The Bionomics of *Glossina Palpalis*.”

The following was published during the year :—

“Abdominal Wound—Prelapse of Stomach—Recovery,” by R. E. McConnell, M.D., etc., in the British Medical Journal.

A paper on “The Tsetses of the Toro District of Uganda,” by R. E. McConnell, M.D., was also sent for publication to the Bulletin of the Entomological Research Committee.

ENTOMOLOGICAL.

Specimens of 299 diptera and one tick were transmitted home by members of the Medical Department through the Government Entomologist.

In addition, a considerable number of specimens were either taken or forwarded direct by Medical Officers.

TABLE I.

RETURNS.

RETURN SHOWING THE MEDICAL STAFF AND THE PRINCIPAL MEMBERS OF THE SUBORDINATE STAFF.

Name and Qualifications.	Rank or Appointment.	Where stationed on 31st December, 1914.	Remarks.
A. D. P. Hodges, C.M.G., M.D. (Lond.), M.R.C.S., L.R.C.P.	Principal Medical Officer	Entebbe †	
C. A. Wiggins, M.R.C.S., L.R.C.P., F.E.S.	Deputy Principal Medical Officer	Do. †	
C. J. Baker, M.R.C.S., L.R.C.P. ...	Medical Sanitary Officer	Do.	
G. C. Strathairn, M.B., Ch.B., D.P.H. (Edin.)	Senior Medical Officer	Kampala †	
R. A. L. van Someren, M.D., Ch.B., D.P.H. (Edin.)	Do.	Jinja	
Captain G. Lane, R.A.M.C. (S.R.), L.R.C.S. & P. (Edin.), L.F.P.S. (Glas.)	Medical Officer	On leave	
J. H. Goodliffe, M.D., C.M. (Aberdeen)	Do.	Bombo †	
A. C. Rendle, M.D., B.C., D.P.H. (Camb.), M.R.C.S., L.R.C.P.	Do.	Fort Portal	
J. M. Collyns, M.B., D.P.H. (Lond.), M.R.C.S., L.R.C.P.	Do.	Entebbe	Acting Medical Sanitary Officer.
J. H. Reford, B.A., M.D., B.Ch., B.A.O., L.M. (Dub.), D.T.M. (Liverpool)	Do.	Masindi	
C. H. Marshall, M.R.C.S., L.R.C.P. ...	Do.	*	Medical Superintendent, Sleeping Sickness Measures.
H. B. Owen, M.B., B.C., D.T.M. & H. (Camb.)	Do.	On leave	
L. Sells, L.R.C.P. (Edin.), L.S.A. ...	Do.	Gulu	
J. A. Taylor, M.B., Ch.B. (Edin.), L.M. (Dub.), D.T.M. (Liverpool)	Do.	Entebbe †	
J. E. Hailstone, M.A. (Camb.), M.R.C.S., L.R.C.P.	Do.	On leave	
G. D. H. Carpenter, B.A., M.D., B.Ch. (Oxf.), M.R.C.S., L.R.C.P.	Do.	*	Special Sleeping Sickness Investigation.
R. E. McConnell, B.A., M.D., C.M. (Montreal), D.T.M. (Liverpool)	Do.	Mbarara †	
H. L. Duke, B.A., M.B., B.C., D.T.M. and H. (Camb.)	Bacteriologist	*	
B. Spearman, M.A., M.B., B.C., D.T.M. and H. (Camb.)	Medical Officer	On leave	
A. H. Owen, M.R.C.S., L.R.C.P., D.T.M. and H. (Camb.)	Do.	Do.	Special Service in connection with Venereal Diseases.
H. R. Neilson, M.B., Ch.B. (Aberdeen)...	Do.	Mbale †	
Capt. G. J. Keane, R.A.M.C., M.D., Ch.B., D.T.M. (Liverpool)	Temporary Medical Officer	*	Seconded from R.A.M.C. for Special Work in connection with Venereal Diseases.
F. C. Doble, M.R.C.S., L.R.C.P. ...	Do.	*	Special Service in connection with Venereal Diseases.
R. J. A. Macmillan, M.B., Ch.B. (Edin.), D.T.M. (Liverpool)	Do.	*	
W. L. Webb, M.R.C.S., L.R.C.P. ...	Do.	*	Special Service in connection with Venereal Diseases.
N. S. Williams, B.A., M.R.C.S., L.R.C.P., B.C.	Do.	Lira	
R. S. Taylor, B.A., M.B., B.C., M.R.C.S., L.R.C.P.	Do.	*	
Miss M. Robertson, M.A. ...	Protozoologist	On leave	
G. S. Bateman, L.D.S., R.C.S. (Eng.), 1902	Government Dentist	On tour	
Miss B. Petherbridge ...	Nursing Sister	Entebbe	
Miss B. V. Hearsum ...	Do.	Do.	
Miss E. M. Pratt ...	Do.	Do.	
Mr. F. E. Westray ...	Dispenser	*	
Mr. J. D. Buckland, M.P.S. ...	Do.	Butiaba	
Mr. H. Flint ...	Chief Clerk, P.M.O.'s Office	Entebbe †	
Mr. P. J. L. Waters ...	Assistant Clerk	†	
Mr. H. G. Blackman ...	Medical Store-keeper	†	

Also the following Indian Medical Assistants :—1 Assistant Surgeon, 15 Sub-Assistant Surgeons (4 on Military duty, 1 on Civil and Military duty), and 6 Compounders (2 on Military duty).

* On Military duty.

† On Civil and Military duty.

TABLE II.

FINANCIAL.

See Section I. (b) of Report. (Page 9.)

TABLE III.

POPULATION STATISTICS.

See Section II. Public Health. (e) General Native Population. (Page 17.)

TABLE IV.

SUMMARY OF ROUTINE SANITARY WORK DONE DURING THE YEAR IN THE TOWN.

1. NAME OF TOWN—ENTEBBE.

—				Approximate area.	Number of Proclaimed Open Spaces.
1912	...	...	...	12 sq. miles	12
1913	...	...	...	12 sq. miles	13
1914	...	...	...	12 sq. miles	13

2. POPULATION.

—		Number of Asiatics.		Number of Natives.		Number of Europeans.		Total.
		Males.	Females.	Males.	Females.	Males.	Females.	
1912	...	293	60	5,751		92	45	6,241
1913	...	243	83	3,033	2,678	76	50	6,163
1914	...	240	86	2,725	2,333	90	50	5,524

3. HOUSING.

—				Number occupied by Europeans.	Number occupied by Natives and Asiatics, includes boys' quarters.
Number of Houses—					
1912	...	...		75	336
1913	...	...		74	550
1914	...	...		87	451

Number of Huts—

1912	...	...	...	...	...	1,220
1913	...	...	...	...	...	1,233
1914	...	...	...	...	...	1,223

4. MOSQUITO PROTECTION OF HOUSES.

—	1912.	1913.	1914.
Number of European houses wholly mosquito-protected ...	65	67	77
Number of European houses with mosquito room ...	9	9	3
Number rendered during the year wholly mosquito-protected	4	3	10
Number rendered during the year partially mosquito-protected	—	—	—

5. ERECTION OF NEW BUILDINGS DURING THE YEAR.

—	1912.	1913.	1914.
Number of public buildings erected with sanction as to site, construction, and relation to other buildings ...	4	3	—
Number of houses erected with sanction as to site, construction, and relation to other buildings ...	20	2	1
Number of huts erected with sanction as to site, construction, and relation to other buildings ...	82	13	—
Number of houses built without sanction ...	—	—	—
Number of huts built without sanction ...	—	—	—

ACTION TAKEN.

—	Number of Prosecutions.		Number Demolished.	
	Huts.	Houses.	Huts.	Houses.
1912 ...	—	2	18	1
1913 ...	—	—	11	—
1914 ...	—	—	10	—

6. MARKETS.

—	Total Number.	Number Paved and Drained.	Number unpaved.
1912 ...	3	1	2
1913 ...	3	1	2
1914 ...	3	1	2

7. SLAUGHTER-HOUSES.

—	Total Number.	Number Paved and Drained.	Number Unpaved.
1912 ...	1	1	Nil
1913 ...	1	1	—
1914 ...	1	1	—

8. LATRINES.

	For Males.		For Females.	
	Number.	Number of Seats.	Number.	Number of Seats.
Number of Public Latrines :—				
1912	12	48	Nil	Nil
1913	12	48	—	—
1914	12	48	—	—
Number of new Public Latrines erected during the year :—				
1912	—	—	—	—
1913	—	—	—	—
1914	—	—	—	—
Number of Public Latrines repaired during the year :—				
1912	1	—	—	—
1913	—	—	—	—
1914	1	—	—	—
Number of Public Latrines demolished during the year :—				
1912	—	—	—	—
1913	—	—	—	—
1914	—	—	—	—

	1912.	1913.	1914.
Number of Private Latrines	390	400	360
Average number of pails of nightsoil removed daily ...	—	456	408
Average number of soiled pails removed and clean pails substituted	—	37	59
Number of nightsoil men employed to clean latrines and remove excreta	25	27	27
Number of cesspools	950	989	907
Number of cesspools cleansed	—	—	—
Number of new cesspools constructed during the year	—	57	—
Number of old cesspools abolished	—	20	80
Number of cesspools oiled regularly by Department ...	—	—	—

9. REMOVAL OF REFUSE.

	1912.	1913.	1914.
Number of dustbins	1	1	46
Number of carts at work daily to remove refuse from streets	12	13	14
Amount of refuse removed daily	48	52	56
Number of carts at work daily to remove refuse from yards and premises	} included in the above		
Amount of refuse removed daily from yards and premises ...			
Number of men employed for removing refuse	34	33	34

10. MODE OF DISPOSAL OF EXCRETA, REFUSE, AND OFFAL.

	Daily average number of pails of excreta.			Daily average number of cartloads of refuse.			Daily average number of cartloads of Slaughter House and Market Offal.		
	1912.	1913.	1914.	1912.	1913.	1914.	1912.	1913.	1914.
Buried or trenched	250	152	228	44	46	50	1	1½	1
Burnt	200	304	180	4	6	6	—	—	—
Thrown into sea	}	—	—	—	—	—	—	—	—
Otherwise dealt with									

11. AVERAGE DAILY NUMBER OF CARTLOADS OF TIN CANS, BOTTLES, BROKEN CROCKERY, AND OTHER INCOMBUSTIBLE MATERIAL REMOVED FROM HOUSES, HUTS, AND COMPOUNDS.

1912.	1913.	1914.
1½	1	1

12. WATER SUPPLY.

Nature of Water Supply.	1912.	1913.	1914.
Pipe-borne water :—			
Source (river, lake, or spring) :—			
Number of linear yards	}	—	—
Number of stand-pipes along roads			
Number of stand-pipes in compounds and houses			
Wells :—			
Public :—			
Number	1	1	20
Number with pumps protected against surface water and mosquito-protected	—	—	—
Private :—			
Number	—	1	1
Number protected against surface water and mosquito-protected	—	—	1
Tanks :—			
Public :—			
Number underground	}	—	—
Number mosquito-protected and served by pumps			
Number above ground			
Number mosquito-protected			
Number of 400 gallons capacity or less			
Number above 400 gallons			

Nature of Water Supply.	1912.	1913.	1914.
Tanks :—			
Private :—			
Number underground	1	1	1
Number mosquito-protected	1	1	1
Number above ground	155	158	174
Number mosquito-protected	—	—	1
Number of 400 gallons capacity or less	—	—	1
Number above 400 gallons	155	158	173
Nature of tank :—			
Wood	—	—	—
Iron	152	152	157
Concrete	3	6	17
Barrels :—			
Number	No record	No record	No record
Number mosquito-protected	27	25	17

13. DRAINAGE.

Nature of Drainage.	Public.	Private.
Masonry drains :—		
Lineal yards of masonry drains :—		
1912	1,327	259
1913	1,362	353
1914	1,362	413
Lineal yards reconstructed during the year :—		
1912	—	—
1913	—	—
1914	—	—
Lineal yards repaired during the year :—		
1912	—	—
1913	—	—
1914	—	—
Lineal yards of new drains constructed during the year :—		
1912	400	259
1913	35	94
1914	—	60*
Earth drains or ditches :—		
Number of linear yards of ditches cleaned :—		
1912	30,600	No record
1913	No record	”
1914	35,000	”
Number of linear yards of ditches dug and graded :—		
1912	No record	No record
1913	”	”
1914	”	”
Average frequency of clearing ditches of grass :—		
1912	2 monthly	2 monthly
1913	2 monthly	2 monthly
1914	1 monthly	1 monthly

* Does not include work done from January 1st—March 31st.

14. CLEARANCE OF UNDERGROWTH, LONG GRASS AND JUNGLE.

	1912.	1913.	1914.
Number of square yards of weeds, grass, and vegetation cut and removed	Approximately 3 square miles		
Average frequency of clearance of rank vegetation on same area	Approximately 1 monthly		

15. EXCAVATIONS AND LOW-LYING LAND.

—	1912.	1913.	1914.
Number of pools and excavations	No record	12	7
Number of excavations filled up	"	7	4
Amount of low-lying and marsh land raised and drained ...	3	30 acres	No record
Number of pools, marshes, streams, &c., fish-stocked ...	—	—	—
Number of cubic yards of material used for filling up pools and excavations			
Number of persons fined for making new excavations ...	Nil	Nil	Nil
Average number of men daily employed in filling up pools, &c.	12	10	10

16. OILING.

—	1912.	1913.	1914.
Number of drains oiled... ..	No record	2	—
Number of pools and excavations oiled	"	3	2
Number of tanks and barrels oiled	"	No record	—
Average number of men daily employed for oiling drains, pools, and watertanks or barrels	1	1	1

17. INSPECTIONS AND PROSECUTIONS.

—	1912.	1913.	1914.
Number of inspectors employed	1	1	1
Number of houses inspected	512	518	443
Number of houses where larvæ were found	—	23	24
Number of notices served to remove conditions causing the breeding of larvæ	—	78	19
Number of persons fined for having mosquito larvæ on premises	—	—	—
Number of notices served to remove insanitary conditions on premises	32	8	97
Number of persons fined for not removing insanitary conditions after notice	2	—	1
Number of soda and aerated water factories inspected ...	1	1	1

(Signed) H. A. MACKENZIE,
District Commissioner.

TABLE IV.—*continued.*SUMMARY OF ROUTINE SANITARY WORK DONE DURING THE YEAR
IN THE TOWN.

1. NAME OF TOWN—JINJA.

—				Approximate area.	Number of proclaimed open spaces.
1912	...	...	...	2,560 acres	1 Busoga Sq.
1913	...	...	...	(approximate) 4 square miles	5 Tennis Sports (European, Goan and Indian).
1914	...	...	...	Do.	5 do. do. do.

2. POPULATION.

—				Number of Natives.*		Number of Europeans.		Total.
				Males.	Females.	Males.	Females.	
1912	...	...	...	1,500	800	62	19	2,381
1913	...	...	...	1,800	1,138	65	21	3,024
1914	...	...	...	1,707	1,077	50	17	2,851

* Including Asiatics.

3. HOUSING.

—				Number occupied by Europeans.	Number occupied by Natives, including Asiatics.
Number of Houses :—					
1912	...	...	...	27	147
1913	...	...	...	42	171
1914	...	...	...	48	173

Number of Huts :—

1912	...	...	...	850 (approximately)
1913	...	...	...	948 (")
1914	...	...	...	950 (")

4. MOSQUITO PROTECTION OF HOUSES.

—	1912.	1913.	1914.
Number of European houses wholly mosquito-protected ...	25	27	29
Number of European houses with mosquito room ...	—	—	—
Number rendered during the year wholly mosquito-protected	—	2	2
Number rendered during the year partially mosquito-protected	—	—	—

5. ERECTION OF NEW BUILDINGS DURING THE YEAR.

	1912.	1913.	1914.
Number of public buildings erected with sanction as to site, construction, and relation to other buildings	—	3	—
Number of houses erected with sanction as to site, construction, and relation to other buildings	30	13	4
Number of huts erected with sanction as to site, construction, and relation to other buildings	300	300	16
Number of houses built without sanction	16	—	—
Number of huts built without sanction	550	150	300

ACTION TAKEN.

	Number of Prosecutions.		Number demolished.	
	Huts.	Houses.	Huts.	Houses.
1912	—	—	—	—
1913	—	—	—	—
1914	—	—	314*	—

* 18 by order.

6. MARKETS.

	Total number.	Number paved and drained.	Number unpaved.
1912	1	—	1
1913	1	—	1
1914	1	—	1

7. SLAUGHTER-HOUSES.

	Total number.	Number paved and drained.	Number unpaved.
1912	1	1	—
1913	1	1	—
1914	1	1	—

8. LATRINES.

	For Males.		For Females.	
	Number.	Number of seats.	Number.	Number of seats.
Number of Public Latrines :—				
1912	3	12	—	—
1913	3	12	—	—
1914	3	12	—	—
Number of new Public Latrines erected during the year :—				
1912	3	12	—	—
1913	—	—	—	—
1914	—	—	—	—
Number of Public Latrines repaired during the year :—				
1912	No record			
1913	—	—	—	—
1914	1	2	—	—
Number of Public Latrines demolished during the year :—				
1912	No record			
1913	—	—	—	—
1914	—	—	—	—

	1912.	1913.	1914.
Number of Private Latrines	123	206	208
Average number of pails of nightsoil removed daily...	140	200	200
Average number of soiled pails removed and clean pails substituted	—	400	400
Number of nightsoil men employed to clean latrines and remove excreta	14	15	16
Number of cesspools	4	13	13
Number of cesspools cleansed	—	—	—
Number of new cesspools constructed during the year	2	4	—
Number of old cesspools abolished	11	4	—
Number of cesspools oiled regularly by Department...	—	—	—

9. REMOVAL OF REFUSE.

	1912.	1913.	1914.
Number of dustbins	Nil	Nil	1
Number of carts at work daily to remove refuse from streets	3	3	—
Amount of refuse removed daily	18	20	—
Number of carts at work daily to remove refuse from yards and premises	—	—	4*
Amount of refuse removed daily from yards and premises ...	—	—	22†
Number of men employed for removing refuse	48	50	27

* Includes streets.

† Cart loads (includes amount removed from streets).

10. MODE OF DISPOSAL OF EXCRETA, REFUSE AND OFFAL.

	Daily average number of pails of excreta.			Daily average number of cartloads of refuse.			Daily average number of cartloads of Slaughter House and Market Offal.		
	1912.	1913.	1914.	1912.	1913.	1914.	1912.	1913.	1914.
Buried or trenched ...	—	—	—	No record			$\frac{1}{2}$	1	1
Burnt ...	100	30	200	—	20	22	—	—	—
Thrown into Nile ...	40	170	—	—	—	—	—	—	—
Otherwise dealt with ...	—	—	—	—	—	—	—	—	—

11. AVERAGE DAILY NUMBER OF CARTLOADS OF TIN CANS, BOTTLES, BROKEN CROCKERY AND OTHER INCOMBUSTIBLE MATERIAL REMOVED FROM HOUSES, HUTS AND COMPOUNDS.

1912.	1913.	1914.
1	1	1

12. WATER SUPPLY.

Nature of Water Supply.	1912.	1913.	1914.
Pipe-borne water :— Source (river, lake or spring) :— Number of linear yards ... Number of stand-pipes along roads... Number of stand-pipes in compounds and houses ... Wells :— Public :— Number ... Number with pumps protected against surface water and mosquito-protected... Private :— Number ... Number protected against surface water and mosquito-protected ... Tanks :— Public :— Number underground ... Number mosquito-protected and served by pumps... Number above ground ... Number mosquito-protected ... Number of 400 gallons capacity or less ... Number above 400 gallons ...	Nil	Nil	Nil

Nature of Water Supply.	1912.	1913.	1914.
Tanks :— Private :— Number underground ... Number mosquito-protected ... Number above ground ... Number mosquito-protected ... Number of 400 gallons capacity or less ... Number above 400 gallons ... Nature of tank :— Wood ... Iron ... Concrete ... Barrels :— Number ... Number mosquito-protected ...	— — 23 23 23 2 — 25 — — —	— — 33 33 31 2 — 33 — — —	— — 35 35 33 2 — 33 2 — —

13. DRAINAGE.

Nature of Drainage.	Public.	Private.
Masonry drains :—		
Lineal yards of masonry drains :—		
1912	} No masonry drains in Jinja	
1913		
1914		
Lineal yards reconstructed during the year :—		
1912		
1913		
1914		
Lineal yards repaired during the year :—		
1912		
1913		
1914		
Lineal yards of new drains constructed during the year :—		
1912		
1913		
1914		
Earth drains or ditches :—		
Number of linear yards of ditches cleaned :—	} No record	
1912		
1913		
1914		
Number of linear yards of ditches dug and graded :—		
1912		
1913		
1914		
Average frequency of clearing ditches of grass :—	} Every month	
1912		
1913		
1914		

14. CLEARANCE OF UNDERGROWTH, LONG GRASS AND JUNGLE.

—	1912.	1913.	1914.
*Number of square yards of weeds, grass and vegetation cut and removed approximately	1,543,960	1,570,000	1,570,000
Average frequency of clearance of rank vegetation on same area	Every month		

* Includes a large area cleared for sleeping sickness prevention.

15. EXCAVATIONS AND LOW-LYING LAND.

—	1912.	1913.	1914.
Number of pools and excavations	—	—	—
Number of excavations filled up	—	—	—
Amount of low-lying and marsh land raised and drained ...	1	—	—
Number of pools, marshes, streams, &c., fish-stocked ...	—	—	—
Number of cubic yards of material used for filling up pools and excavations	—	—	—
Number of persons fined for making new excavations ...	—	—	—
Average number of men daily employed in filling up pools, &c.	—	—	—

16. OILING.

	1912.	1913.	1914.
Number of drains oiled... ..	—	—	—
Number of pools and excavations oiled	1	—	—
Number of tanks and barrels oiled	—	—	—
Average number of men daily employed for oiling drains, pools, and watertanks or barrels	—	—	—

17. INSPECTIONS AND PROSECUTIONS.

	1912.	1913.	1914.
Number of inspectors employed	1	1	1
Number of houses inspected	174	200	236
Number of houses where larvæ were found	42	70	49
Number of notices served to remove conditions causing the breeding of larvæ	42	70	49
Number of persons fined for having mosquito larvæ on premises	—	—	—
Number of notices served to remove insanitary conditions on premises	10	12	47
Number of persons fined for not removing insanitary con- ditions after notice	—	—	3
Number of soda and aerated water factories inspected ...	1	2	2

(Signed) J. H. G. McDOUGALL,
District Commissioner.

TABLE IV.—*continued.*SUMMARY OF ROUTINE SANITARY WORK DONE DURING THE YEAR
IN THE TOWN.

1. NAME OF TOWN—KAMPALA.

—				Approximate area. Acres.	Number of Proclaimed Open Spaces.
1912	...	...	...	1,416·6	6
1913	...	...	...	1,404·48	7
1914	...	...	...	1,404·48	8

2. POPULATION.

—		Number of Natives.		Number of Europeans.		Number of Asiatics.		Total.
		Males.	Females.	Males.	Females.	Males.	Females.	
1912	...	3,062	630	87	12	532	132	4,455
1913	...	1,376	424	107	42	574	175	2,698
1914	...	934	267	103	40	492	235	2,071

3. HOUSING.

—				Number occupied by Europeans.	Number occupied by Natives.	Number occupied by Asiatics.
Number of Houses :—						
1912	...	...	...	56	333	No record
1913	...	...	...	68	270	200
1914	...	...	...	108	296	345

Number of Huts :—

1912	...	...	...	...	308
1913	...	...	...	...	443
1914	...	...	...	...	381

4. MOSQUITO PROTECTION OF HOUSES.

—	1912.	1913.	1914.
Number of European houses wholly mosquito-protected ...	56	60	71
Number of European houses with mosquito room ...	—	2	12
Number rendered during the year wholly mosquito-protected	—	1	11
Number rendered during the year partially mosquito-protected	—	—	—

5. ERECTION OF NEW BUILDINGS DURING THE YEAR.

	1912.	1913.	1914.
Number of public buildings erected with sanction as to site, construction, and relation to other buildings	3	2	15
Number of houses erected with sanction as to site, construction, and relation to other buildings	58	52	34
Number of huts erected with sanction as to site, construction, and relation to other buildings	180	135	172
Number of houses built without sanction	—	—	4
Number of huts built without sanction	—	—	18

ACTION TAKEN.

	Number of Prosecutions.		Number demolished.	
	Huts.	Houses.	Huts.	Houses.
1912	—	—	—	—
1913	—	—	—	—
1914	—	4	252*	—

*24 of this number were demolished by order of the Township Authority.

6. MARKETS.

	Total number.	Number paved and drained.	Number unpaved.
1912	1	—	1
1913	1	—	1
1914	1	—	1

7. SLAUGHTER-HOUSES.

	Total number.	Number paved and drained.	Number unpaved.
1912	—		—
1913	1	1	—
1914	1	1	—

8. LATRINES.

	For Males.		For Females.	
	Number.	Number of seats.	Number.	Number of seats.
Number of Public Latrines :—				
1912	11	42	—	—
1913	11	42	—	—
1914	12	49	1	7
Number of new Public Latrines erected during the year :—				
1912	—	—	—	—
1913	—	—	—	—
1914	2	10	1	7
Number of Public Latrines repaired during the year :—				
1912	—	—	—	—
1913	2	4	—	—
1914	2	6	—	—
Number of Public Latrines demolished during the year :—				
1912	—	—	—	—
1913	—	—	—	—
1914	1	3	—	—

	1912.	1913.	1914.
Number of Private Latrines	284	391	687
Average number of pails of nightsoil removed daily	568	433	743
Average number of soiled pails removed and clean pails substituted	—	—	52
Number of nightsoil men employed to clean latrines and remove excreta	27	33	36
Number of cesspools	1	1	—
Number of cesspools cleansed	1	1	—
Number of new cesspools constructed during the year	—	—	—
Number of old cesspools abolished	—	—	1
Number of cesspools oiled regularly by Department	—	—	—

9. REMOVAL OF REFUSE.

	1912.	1913.	1914.
Number of dustbins	—	—	No record
Number of carts at work daily to remove refuse from streets	4	5	7
Amount of refuse removed daily	No record	No record	21
Number of carts at work daily to remove refuse from yards and premises	3	5	7
Amount of refuse removed daily from yards and premises	No record	No record	15 cartloads
Number of men employed for removing refuse	22	22	32

10. MODE OF DISPOSAL OF EXCRETA, REFUSE AND OFFAL.

—	Daily average number of pails of excreta.			Daily average number of cartloads of refuse.			Daily average number of cartloads of Slaughter House and Market Offal.		
	1912.	1913.	1914.	1912.	1913.	1914.	1912.	1913.	1914.
Buried or trenched	13	—	743	—	—	—	—	—	—
Burnt	555	433	—	48	24	21	5	—	2
Thrown into Sea	—	—	—	—	—	—	—	—	—
Otherwise dealt with	—	—	—	—	—	—	—	—	—

11. AVERAGE DAILY NUMBER OF CARTLOADS OF TIN CANS, BOTTLES, BROKEN CROCKERY AND OTHER INCOMBUSTIBLE MATERIAL REMOVED FROM HOUSES, HUTS AND COMPOUNDS.

1912.	1913.	1914.
5	1	2

12. WATER SUPPLY.

Nature of Water Supply.	1912.	1913.	1914.
Pipe-borne water :—			
Source (river, lake or spring) :—			
Number of linear yards	}	—	—
Number of stand-pipes along roads... ..			
Number of stand-pipes in compounds and houses			
Wells :—			
Public :—			
Number	2	4	5
Number protected against surface water	2	4	5
Private :—			
Number	—	1	2
Number protected against surface water and mosquito-protected	—	1	2
Tanks :—			
Public :—			
Number underground	}	—	—
Number mosquito-protected and served by pumps			
Number above ground			
Number mosquito-protected... ..			
Number of 400 gallons capacity or less			
Number above 400 gallons			

Nature of Water Supply.	1912.	1913.	1914.
Tanks :—			
Private :—			
Number underground	2	3	5
Number mosquito-protected	—	—	5
Number above ground	No record	86	98
Number mosquito-protected	—	44	87
Number of 400 gallons capacity or less	20	20	45
Number above 400 gallons	42	60	58
Nature of tank :—			
Wood	—	—	—
Iron	62	88	98
Concrete	2	3	5
Barrels :—			
Number	—	1	16
Number mosquito-protected	—	1	5

13. DRAINAGE.

Nature of Drainage.	Public.	Private.
Masonry drains :—		
Lineal yards of masonry drains :—		
1912	600	369
1913	1,153	369
1914	1,556	971
Lineal yards reconstructed during the year :—		
1912	—	No record
1913	10	"
1914	—	54
Lineal yards repaired during the year :—		
1912	100	No record
1913	—	"
1914	—	84
Lineal yards of new drains constructed during the year, including culverts :—		
1912	—	No record
1913	533	"
1914	413	602
Earth drains or ditches :—		
Number of linear yards of ditches cleaned :—		
1912	17,220	No record
1913	17,753	"
1914	17,873	"
Number of linear yards of ditches dug and graded :—		
1912	3,000	No record
1913	2,733	"
1914	2,800	"
Average frequency of clearing ditches of grass :—		
1912	9	No record
1913	9	"
1914	9 annually	"

14. CLEARANCE OF UNDERGROWTH, LONG GRASS AND JUNGLE.

—	1912.	1913.	1914.
Number of square yards of weeds, grass and vegetation cut and removed	98,031	346,031	372,453
Average frequency of clearance of rank vegetation on same area	9	3	7

15. EXCAVATIONS AND LOW-LYING LAND.

—	1912.	1913.	1914.
Number of pools and excavations	—	1	*100
Number of excavations filled up	1	1	30
Amount of low-lying and marsh land raised and drained ...	—	* 400,000	* 440,000 sq. yards
Number of pools, marshes, streams, &c., fish-stocked ...	—	—	—
Number of cubic yards of material used for filling up pools and excavations	} No record	600	{ impossible to gauge
Number of persons fined for making new excavations ...		—	
Average number of men daily employed in filling up pools, &c.	—	60	6

* In process of cleaning.

16. OILING.

	1912.	1913.	1914.
Number of drains oiled	—	—	25
Number of pools and excavations oiled	—	—	* 70
Number of tanks and barrels oiled	—	—	*
Average number of men daily employed for oiling drains, pools, and watertanks or barrels	—	—	6

* This is done by occupiers of premises.

17. INSPECTIONS AND PROSECUTIONS.

	1912.	1913.	1914.
Number of inspectors employed	1	1	2
Number of houses inspected	All houses	537	671
Number of houses where larvæ were found	—	58	39
Number of notices served to remove conditions causing the breeding of larvæ	—	58	39
Number of persons fined for having mosquito larvæ on premises	—	—	—
Number of notices served to remove insanitary conditions on premises	22	2	130
Number of persons fined for not removing insanitary conditions after notice	2	—	5
Number of soda and aerated water factories inspected ...	2	2	2

(Signed) J. C. R. STURROCK,

District Commissioner.

TABLE V.

RETURN OF DISEASES AND DEATHS (IN-PATIENTS) FOR THE YEAR 1914.

Diseases.	Remain- ing in Hospital at end of 1913.	Yearly Total.		Total Deaths.	Remain- ing in Hospital at end of 1914.	Remarks.
		Ad- missions	Total Treated.			
INFECTIVE DISEASES.						
Beri-Beri	—	—	—	—	—	
Cerebro-Spinal Fever	—	6	6	5	—	
Chicken-Pox	2	25	27	—	1	
Cholera	—	—	—	—	—	
Dengue	—	—	—	—	—	
Diphtheria	—	—	—	—	—	
Dysentery	—	70	70	31	1	
Endocarditis—infective	—	—	—	—	—	
Enteric	—	9	9	2	2	
Erysipelas	—	—	—	—	—	
Gonorrhœa	1	17	18	—	—	
Influenza	—	—	—	—	—	
Kala Azar	—	—	—	—	—	
Leprosy—(a) Nodular	—	—	—	—	—	
(b) Anæsthetic	—	—	—	—	—	
Malaria—(a) Tertian	1	11	12	—	—	
(b) Quartan	—	3	3	—	—	
(c) Aestivo-autumnal	—	157	157	10	10	
(d) Chronic Malaria	2	4	6	2	—	
(e) Black-water	—	3	3	2	—	
Measles	—	7	7	1	—	
Malta Fever	—	4	4	—	—	
Plague	—	23	23	16	—	
Pneumonia	—	65	65	28	2	
Rabies	—	—	—	—	—	
Relapsing Fever	1	34	35	3	—	
Rheumatic Fever	—	5	5	2	—	
Septicæmia	—	2	2	2	—	
Trypanosomiasis (Sleeping Sickness)	4	25	29	10	1	
Small-Pox	1	62	63	24	—	
Syphilis (a) Primary	1	20	21	—	2	
(b) Secondary	4	43	47	—	4	
(c) Tertiary	—	43	43	2	6	
(d) Inherited	—	4	4	—	1	
Tetanus	—	—	—	—	—	
Tuberculosis	—	8	8	3	—	
Whooping Cough	—	—	—	—	—	
Yaws	—	2	2	—	—	
Yellow Fever	—	—	—	—	—	
Pyrexia of uncertain origin	1	53	54	—	1	
Muhinyo (<i>see</i> Malta Fever)	—	—	—	—	—	
INTOXICATIONS.						
Alcoholism	—	—	—	—	—	
Morphinism	—	—	—	—	—	
Others	—	—	—	—	—	
GENERAL DISEASES.						
Anæmia	—	8	8	—	1	
Anæmia—Pernicious	—	—	—	—	—	
Diabetes	—	—	—	—	—	
Exophthalmic Goitre	—	—	—	—	—	
Gout	—	—	—	—	—	
Leucocythæmia... ..	—	—	—	—	—	
Hodgkin's Disease	—	—	—	—	—	
Myxœdema	—	—	—	—	—	
Purpura... ..	—	—	—	—	—	

RETURN OF DISEASES AND DEATHS (IN-PATIENTS) FOR THE YEAR 1914—continued.

Diseases.	Remain- ing in Hospital at end of 1913.	Yearly Total.		Total Deaths.	Remain- ing in Hospital at end of 1914.	Remarks.
		Ad- missions	Total Treated.			
GENERAL DISEASES— <i>continued.</i>						
Debility	1	13	14	3	—	
Others	1	8	9	2	1	
LOCAL DISEASES.						
DISEASES OF THE NERVOUS SYSTEM.						
Sub-section 1.						
Neuritis	—	—	—	—	—	
Meningitis	—	1	1	1	—	
Myelitis	—	—	—	—	—	
Hydrocephalus	—	—	—	—	—	
Encephalitis	—	—	—	—	—	
Abscess of Brain	—	—	—	—	—	
Congestion of Brain	—	—	—	—	—	
Others	—	3	3	1	—	
Sub-section 2.						
Apoplexy	—	2	2	1	—	
Paralysis	—	4	4	1	2	
Chorea	—	—	—	—	—	
Epilepsy	—	8	8	—	—	
Neuralgia	—	4	4	—	—	
Hysteria	—	2	2	—	—	
Headache	—	1	1	—	—	
Sub-section 3.						
Mental Diseases—						
Idiocy	1	—	1	—	—	
Mania	—	—	—	—	—	
Melancholia	—	—	—	—	—	
Dementia	—	1	1	—	—	
Insanity... ..	1	1	2	—	—	
Diseases of the Eye—						
Conjunctivitis	—	5	5	—	—	
Keratitis	—	1	1	—	—	
Ulceration of Cornea	—	3	3	—	—	
Iritis	—	1	1	—	—	
Optic Neuritis	—	—	—	—	—	
Cataract	—	1	1	—	—	
Others	—	10	10	—	—	
Diseases of the Ear—						
Inflammation	—	—	—	—	—	
Other Diseases	—	—	—	—	—	
Diseases of the Nose—						
Rhinitis	—	—	—	—	—	
Coryza	—	3	3	—	1	
Others	—	3	3	—	—	
Diseases of the Circulatory System—						
Pericarditis	—	2	2	2	—	
Endocarditis	—	—	—	—	—	
Valvular Mitral	—	2	2	1	—	
Aortic	—	1	1	1	—	
Tricuspid	—	1	1	—	—	
Pulmonary	—	—	—	—	—	
Arterial Sclerosis	—	—	—	—	—	
Aneurism	—	—	—	—	—	
Others	—	1	1	1	—	

RETURN OF DISEASES AND DEATHS (IN-PATIENTS) FOR THE YEAR 1914—*continued*.

Diseases.	Remain- ing in Hospital at end of 1913.	Yearly Total.		Total Deaths.	Remain- ing in Hospital at end of 1914.	Remarks.
		Ad- missions	Total Treated.			
LOCAL DISEASES— <i>continued.</i>						
Diseases of the Respiratory System—						
Laryngitis	—	3	3	—	—	
Bronchitis	2	40	42	6	8	
Broncho-pneumonia	1	12	13	4	—	
Abscess of Lung	—	—	—	—	—	
Gangrene of Lung	—	—	—	—	—	
Emphysema	—	1	1	—	—	
Pleurisy	1	21	22	—	—	
Empyema	—	—	—	—	—	
Phthisis	—	3	3	2	—	
Others	—	2	2	—	—	
Diseases of the Digestive System—						
Stomatitis	—	3	3	—	—	
Caries of teeth	—	1	1	—	—	
Glossitis	—	—	—	—	—	
Sore Throat	—	—	—	—	—	
Inflammation of Tonsils	—	3	3	—	—	
Gastritis	—	1	1	—	—	
Ulceration of Stomach... ..	—	—	—	—	—	
Hæmatemesis	—	—	—	—	—	
Dilatation of Stomach	—	—	—	—	—	
Stricture of Stomach	—	—	—	—	—	
Dyspepsia	—	4	4	—	1	
Enteritis	—	1	1	—	—	
Appendicitis	—	1	1	—	—	
Colitis	—	2	2	1	—	
Ulceration of Intestines	—	—	—	—	—	
Sprue	—	—	—	—	—	
Hernia	1	15	16	2	1	
Diarrhœa	1	70	71	6	2	
Constipation	—	4	4	—	—	
Colic	—	10	10	—	—	
Hæmorrhoids	—	—	—	—	—	
Pancreatitis	—	—	—	—	—	
Hepatitis—Acute	—	1	1	—	—	
Abscess	—	1	1	—	—	
Cirrhosis	—	—	—	—	—	
Jaundice	—	4	4	—	—	
Peritonitis	—	2	2	—	—	
Ascites	—	8	8	4	—	
Others	—	2	2	—	—	
Diseases of the Lymphatic System—						
Splenitis	—	1	1	—	—	
Inflammation of Lymphatic Gland	—	9	9	1	—	
Suppuration of Lymphatic Gland	—	5	5	—	—	
Lymphangitis	—	—	—	—	—	
Elephantiasis	—	—	—	—	—	
Diseases of the Urinary System—						
Acute Nephritis	—	1	1	1	—	
Bright's Disease	—	6	6	6	—	
Pyelitis	—	—	—	—	—	
Calculus	—	—	—	—	—	
Renal Colic	—	—	—	—	—	
Cystitis	—	1	1	1	—	
Vesical Calculus	—	—	—	—	—	
Suppression	—	—	—	—	—	
Hæmaturia	—	—	—	—	—	
Chyluria	—	—	—	—	—	

RETURN OF DISEASES AND DEATHS (IN-PATIENTS) FOR THE YEAR 1914—*continued*.

Diseases.	Remain- ing in Hospital at end of 1913.	Yearly Total.		Total Deaths.	Remain- ing in Hospital at end of 1914.	Remarks.
		Ad- missions	Total Treated.			
LOCAL DISEASES— <i>continued.</i>						
Diseases of the Generative System—						
Male Organs—						
Urethritis	—	—	—	—	—	
Gleet	—	—	—	—	—	
Stricture	1	7	8	2	—	
Prostatitis	—	—	—	—	—	
Soft chancre	—	12	12	—	—	
Condyloma	—	—	—	—	—	
Inflammation of Scrotum	—	1	1	—	—	
Hydrocele	—	3	3	—	—	
Orchitis	—	10	10	—	1	
Epididymitis	—	2	2	—	—	
Abscess of Testicle	—	1	1	—	—	
Others	—	10	10	—	—	
Female Organs—						
Ovaritis	—	—	—	—	—	
Ovarian Cyst	—	—	—	—	—	
Endometritis	—	—	—	—	—	
Displacement of Uterus	—	—	—	—	—	
Vaginitis	—	—	—	—	—	
Amenorrhœa	—	—	—	—	—	
Dysmenorrhœa	—	—	—	—	—	
Menorrhagia	—	—	—	—	—	
Leucorrhœa	—	—	—	—	—	
Abortion	—	3	3	—	—	
Delayed Labour	—	5	5	1	—	
Postpartum Hæmorrhage	—	—	—	—	—	
Retained Placenta	—	3	3	1	—	
Premature Birth	—	1	1	1	—	
Puerperal Septicæmia	—	—	—	—	—	
Mastitis	—	2	2	—	—	
Abscess of Breast	—	—	—	—	—	
Others	—	3	3	—	—	
Diseases of Organs of Locomotion—						
Osteitis	—	—	—	—	—	
Arthritis	—	13	13	—	2	
Spondylitis	—	—	—	—	—	
Bursitis	—	2	2	—	1	
Myalgia (Rheumatism)	—	24	24	—	—	
Other Diseases	—	14	14	—	1	
Diseases of Connective Tissue—						
Cellulitis	—	36	36	3	2	
Abscess	—	38	38	—	1	
Elephantiasis	1	3	4	—	—	
Other Diseases	—	1	1	—	—	
Diseases of the Skin—						
Urticaria	—	—	—	—	—	
Eczema	—	1	1	—	—	
Boil	—	2	2	—	—	
Carbuncle	—	1	1	—	—	
Herpes	—	—	—	—	—	
Psoriasis	—	1	1	—	—	
Oriental Sore	—	3	3	—	—	
Tinea	—	—	—	—	—	
Scabies	—	3	3	—	—	

RETURN OF DISEASES AND DEATHS (IN-PATIENTS) FOR THE YEAR 1914—continued.

Diseases.	Remain- ing in Hospital at end of 1913.	Yearly Total.		Total Deaths.	Remain- ing in Hospital at end of 1914.	Remarks.
		Ad- missions	Total Treated.			
LOCAL DISEASES— <i>continued.</i>						
Diseases of the Skin— <i>continued.</i>						
Acne	—	—	—	—	—	
Prickly Heat	—	1	1	—	—	
Ulcers	1	58	59	—	3	
Other Diseases	—	2	2	—	—	
Injuries—General	—	21	21	6	2	
Local... ..	16	266	282	8	13	
Surgical Operations	—	126	126	—	—	
Tumours	—	7	7	—	—	
Malformations	—	—	—	—	—	
Poisons	—	7	7	—	—	
Parasites—Animal	—	—	—	—	—	
Protozoa	—	—	—	—	—	
Trematoda (Flukes)	—	—	—	—	—	
Cestoda—						
Tænia Solium	—	—	—	—	—	
Tænia Saginata... ..	—	—	—	—	—	
Nematoda—						
Ascaris	—	—	—	—	—	
Tricocephalus Dispar.	—	—	—	—	—	
Trichina	—	—	—	—	—	
Dracunculus	1	3	4	—	—	
Filariasis	—	—	—	—	—	
Strongylus	—	—	—	—	—	
Ankylostomiasis	1	4	5	3	—	
Oxyuris	—	—	—	—	—	
Insecta—						
Myiasis	—	—	—	—	—	
Others	—	1	1	—	—	
Total	49	1,609	1,658	216	74	

TABLE VI.

RETURN OF DISEASES (OUT-PATIENTS) FOR THE YEAR 1914.

Diseases.								Male.	Female.	Total.	Deaths.
INFECTIVE DISEASES.											
Beri-Beri	...	...	...	...	...	...	...	—	—	—	—
Cerebro-Spinal Fever	...	...	...	...	...	...	...	8	1	9	7
Chicken-Pox	...	...	...	...	...	...	...	51	6	57	—
Cholera	...	...	...	...	...	...	...	—	—	—	—
Dengue	...	...	...	...	...	...	...	4	—	4	—
Diphtheria	...	...	...	...	...	...	...	—	1	1	—
Dysentery	...	...	...	...	...	...	...	493	108	601	34
Endocarditis—infective	...	...	...	...	...	...	...	—	—	—	—
Enteric	...	...	...	...	...	...	...	16	3	19	4
Erysipelas	...	...	...	...	...	...	...	4	—	4	—
Gonorrhœa	...	...	...	...	...	...	...	1,397	135	1,532	—
Influenza	...	...	...	...	...	...	...	35	17	52	—
Kala Azar	...	...	...	...	...	...	...	—	—	—	—
Leprosy (a) Nodular	...	...	...	...	...	...	...	12	6	18	—
(b) Anæsthetic	...	...	...	...	...	...	...	17	3	20	—
Malaria (a) Tertian	...	...	...	...	...	...	...	266	47	313	1
(b) Quartan	...	...	...	...	...	...	...	9	—	9	—
(c) Aestivo-autumnal	...	...	...	...	...	...	...	4,747	1,284	6,031	14
(d) Chronic Malaria	...	...	...	...	...	...	...	393	165	558	5
(e) Black-water	...	...	...	...	...	...	...	49	4	53	11
Measles	...	...	...	...	...	...	...	36	18	54	1
Malta Fever	...	...	...	...	...	...	...	16	7	23	—
Mumps	...	...	...	...	...	...	...	83	21	104	—
Plague	...	...	...	...	...	...	...	34	2	36	18
Pneumonia	...	...	...	...	...	...	...	145	18	163	40
Rabies	...	...	...	...	...	...	...	—	—	—	—
Relapsing Fever	...	...	...	...	...	...	...	508	48	556	4
Septicæmia	...	...	...	...	...	...	...	3	1	4	3
Rheumatic Fever	...	...	...	...	...	...	...	35	5	40	4
Trypanosomiasis (Sleeping Sickness)	...	...	...	...	...	...	...	35	6	41	10
Small-Pox	...	...	...	...	...	...	...	57	10	67	24
Syphilis (a) Primary	...	...	...	...	...	...	...	595	189	784	—
(b) Secondary	...	...	...	...	...	...	...	937	377	1,314	—
(c) Tertiary	...	...	...	...	...	...	...	1,067	495	1,562	2
(d) Inherited	...	...	...	...	...	...	...	700	438	1,138	—
Tetanus	...	...	...	...	...	...	...	1	—	1	—
Tuberculosis	...	...	...	...	...	...	...	17	4	21	3
Whooping Cough	...	...	...	...	...	...	...	31	26	57	—
Yaws	...	...	...	...	...	...	...	299	31	330	—
Yellow Fever	...	...	...	...	...	...	...	—	—	—	—
Pyrexia of uncertain origin	...	...	...	...	...	...	...	2,386	324	2,710	—
Other Diseases	...	...	...	...	...	...	...	3	1	4	—
INTOXICATIONS.											
Alcoholism	...	...	...	...	...	...	...	7	—	7	—
Morphinism	...	...	...	...	...	...	...	—	—	—	—
Others	...	...	...	...	...	...	...	—	—	—	—
GENERAL DISEASES.											
Anæmia	...	...	...	...	...	...	...	138	62	200	—
Anæmia—Pernicious	...	...	...	...	...	...	...	—	—	—	—
Diabetes	...	...	...	...	...	...	...	—	—	—	—
Exophthalmic Goitre	...	...	...	...	...	...	...	—	—	—	—
Gout	...	...	...	...	...	...	...	1	—	1	—

RETURN OF DISEASES (OUT-PATIENTS) FOR THE YEAR 1914—continued.

Diseases.							Male.	Female.	Total.	Deaths.
GENERAL DISEASES—continued.										
Leucocythæmia...	...	...	...	...	...	...	2	—	2	—
Hodgkin's Disease	...	...	...	...	...	...	—	—	—	—
Myxœdema	...	...	...	...	...	...	—	—	—	—
Purpura...	...	...	...	...	...	...	1	—	1	—
Rickets ...	...	...	...	...	...	...	1	2	3	—
Scurvy ...	...	...	...	...	...	...	5	—	5	—
Debility...	...	...	...	...	...	...	471	342	813	5
Other Diseases ...	...	...	...	...	...	...	29	6	35	1
LOCAL DISEASES										
DISEASES OF THE NERVOUS SYSTEM.										
Sub-section 1.										
Neuritis	...	...	...	...	...	...	10	2	12	—
Meningitis	...	...	...	...	...	...	1	—	1	1
Myelitis	...	...	...	...	...	...	4	—	4	—
Hydrocephalus ...	...	...	...	...	...	...	—	—	—	—
Encephalitis	...	...	...	...	...	...	3	—	3	—
Abscess of Brain	...	...	...	...	...	...	1	—	1	—
Congestion of Brain	...	...	...	...	...	...	—	—	—	—
Other Diseases ...	...	...	...	...	...	...	7	3	10	2
Sub-section 2.										
Apoplexy	...	...	...	...	...	...	5	—	5	1
Paralysis	...	...	...	...	...	...	13	—	13	1
Chorea ...	...	...	...	...	...	...	1	—	1	—
Epilepsy	...	...	...	...	...	...	42	8	50	—
Neuralgia	...	...	...	...	...	...	643	230	873	—
Hysteria	...	...	...	...	...	...	4	10	14	—
Headache	...	...	...	...	...	...	623	243	866	—
Other Diseases ...	...	...	...	...	...	...	66	13	79	2
Sub-section 3.										
Mental Diseases—										
Idiocy ...	...	...	...	...	...	...	5	1	6	—
Mania ...	...	...	...	...	...	...	3	—	3	—
Melancholia	...	...	...	...	...	...	1	—	1	—
Dementia	...	...	...	...	...	...	—	1	1	—
Delusional Insanity	...	...	...	...	...	...	2	—	2	—
Other Diseases ...	...	...	...	...	...	...	13	4	17	—
Diseases of the Eye—										
Conjunctivitis ...	...	...	...	...	...	...	3,230	1,767	4,997	—
Keratitis	...	...	...	...	...	...	27	14	41	—
Ulceration of Cornea	...	...	...	...	...	...	43	14	57	—
Iritis ...	...	...	...	...	...	...	50	10	60	—
Optic Neuritis	...	...	...	...	...	...	4	—	4	—
Cataract	...	...	...	...	...	...	10	3	13	—
Other Diseases ...	...	...	...	...	...	...	114	22	136	—
Diseases of the Ear—										
Inflammation ...	...	...	...	...	...	...	660	409	1,069	—
Other Diseases ...	...	...	...	...	...	...	318	122	440	—
Diseases of the Nose—										
Coryza ...	...	...	...	...	...	...	468	33	501	—
Rhinitis...	...	...	...	...	...	...	169	11	180	—
Other Diseases ...	...	...	...	...	...	...	84	55	139	—

RETURN OF DISEASES (OUT-PATIENTS) FOR THE YEAR 1914—*continued.*

Diseases.								Male.	Female.	Total.	Deaths.
LOCAL DISEASES— <i>continued.</i>											
Diseases of the Circulatory System—											
Pericarditis	...	...	...	...	...	...	...	4	2	6	2
Endocarditis	...	...	...	...	...	...	...	3	1	4	—
Valvular Mitral	...	...	...	...	...	...	...	28	17	45	3
Aortic	...	...	...	...	...	...	...	4	1	5	1
Tricuspid	...	...	...	...	...	...	...	1	—	1	—
Pulmonary	...	...	...	...	...	...	...	—	—	—	—
Arterial Sclerosis	...	...	...	...	...	...	...	—	—	—	—
Aneurism	...	...	...	...	...	...	...	1	—	1	—
Other Diseases	...	...	...	...	...	...	...	17	10	27	3
Diseases of the Respiratory System—											
Laryngitis	...	...	...	...	...	...	...	73	33	106	—
Bronchitis	...	...	...	...	...	...	...	7,958	3,440	11,398	6
Broncho-pneumonia	...	...	...	...	...	...	...	47	3	50	8
Abscess of Lung	...	...	...	...	...	...	...	—	—	—	—
Gangrene of Lung	...	...	...	...	...	...	...	—	—	—	—
Emphysema	...	...	...	...	...	...	...	2	—	2	—
Pleurisy	...	...	...	...	...	...	...	246	108	354	—
Empyema	...	...	...	...	...	...	...	4	1	5	—
Phthisis	...	...	...	...	...	...	...	11	5	16	1
Bronchial Spirochaetosis	...	...	...	...	...	...	...	2	—	2	—
Other Diseases	...	...	...	...	...	...	...	527	367	894	3
Diseases of the Digestive System—											
Stomatitis	...	...	...	...	...	...	...	559	304	863	—
Caries of teeth	...	...	...	...	...	...	...	506	241	747	—
Glossitis	...	...	...	...	...	...	...	6	2	8	—
Sore Throat	...	...	...	...	...	...	...	314	151	465	—
Inflammation of Tonsils	...	...	...	...	...	...	...	254	106	363	—
Gastritis	...	...	...	...	...	...	...	30	5	35	—
Ulceration of Stomach	...	...	...	...	...	...	...	—	—	—	—
Hæmatemesis	...	...	...	...	...	...	...	—	1	1	—
Dilatation of Stomach	...	...	...	...	...	...	...	1	—	1	—
Stricture of Stomach	...	...	...	...	...	...	...	—	—	—	—
Dyspepsia	...	...	...	...	...	...	...	1,463	778	2,241	—
Enteritis	...	...	...	...	...	...	...	70	10	80	1
Appendicitis	...	...	...	...	...	...	...	4	3	7	—
Colitis	...	...	...	...	...	...	...	52	13	65	3
Ulceration of Intestines	...	...	...	...	...	...	...	3	—	3	—
Sprue	...	...	...	...	...	...	...	—	—	—	—
Hernia	...	...	...	...	...	...	...	55	2	57	2
Diarrhoea	...	...	...	...	...	...	...	1,686	516	2,202	14
Constipation	...	...	...	...	...	...	...	2,683	1,218	3,901	—
Colic	...	...	...	...	...	...	...	1,131	607	1,738	—
Hæmorrhoids	...	...	...	...	...	...	...	26	5	31	—
Pancreatitis	...	...	...	...	...	...	...	—	—	—	—
Hepatitis—Acute	...	...	...	...	...	...	...	14	1	15	1
Abscess	...	...	...	...	...	...	...	1	—	1	—
Cirrhosis	...	...	...	...	...	...	...	1	1	2	1
Jaundice	...	...	...	...	...	...	...	22	2	24	—
Peritonitis	...	...	...	...	...	...	...	2	3	5	—
Ascites	...	...	...	...	...	...	...	19	2	21	4
Other Diseases	...	...	...	...	...	...	...	115	25	140	—
Diseases of the Lymphatic System—											
Splenitis	...	...	...	...	...	...	...	76	47	123	—
Inflammation of Lymphatic Gland	...	...	...	...	...	...	...	388	65	453	—
Suppuration of Lymphatic Gland	...	...	...	...	...	...	...	183	40	223	1
Lymphangitis	...	...	...	...	...	...	...	33	15	48	—
Elephantiasis	...	...	...	...	...	...	...	15	—	15	—
Other Diseases	...	...	...	...	...	...	...	17	3	20	—

RETURN OF DISEASES (OUT-PATIENTS) FOR THE YEAR 1914—*continued.*

Diseases.								Male.	Female.	Total.	Deaths.
LOCAL DISEASES— <i>continued.</i>											
Diseases of the Urinary System—											
Acute Nephritis	...	...	...	...	...	...	...	4	—	4	1
Bright's Disease	...	...	...	...	...	...	...	15	4	19	6
Pyelitis	...	...	...	...	...	...	...	2	—	2	1
Calculus	...	...	...	...	...	...	...	1	—	1	—
Renal Colic	...	...	...	...	...	...	...	1	1	2	—
Cystitis	...	...	...	...	...	...	...	11	6	17	1
Vesical Calculus	...	...	...	...	...	...	...	1	—	1	—
Suppression	...	...	...	...	...	...	...	5	—	5	—
Hæmaturia	...	...	...	...	...	...	...	4	—	4	—
Chyluria	...	...	...	...	...	...	...	—	—	—	—
Other Diseases	...	...	...	...	...	...	...	9	2	11	—
Diseases of the Generative System—											
Male Organs—											
Urethritis	...	...	...	...	...	...	...	3	—	3	—
Gleet	...	...	...	...	...	...	...	25	—	25	—
Stricture	...	...	...	...	...	...	...	26	—	26	2
Prostatitis	...	...	...	...	...	...	...	7	—	7	—
Soft chancre	...	...	...	...	...	...	...	264	—	264	—
Condyloma	...	...	...	...	...	...	...	18	—	18	—
Inflammation of Scrotum	...	...	...	...	...	...	...	4	—	4	—
Hydrocele	...	...	...	...	...	...	...	18	—	18	—
Orchitis	...	...	...	...	...	...	...	158	—	158	—
Epididymitis	...	...	...	...	...	...	...	12	—	12	—
Abscess of Testicle	...	...	...	...	...	...	...	10	—	10	—
Other Diseases	...	...	...	...	...	...	...	37	—	37	—
Female Organs—											
Ovaritis	...	...	...	...	...	...	...	—	4	4	—
Ovarian Cyst	...	...	...	...	...	...	...	—	1	1	—
Endometritis	...	...	...	...	...	...	...	—	2	2	—
Displacement of Uterus	...	...	...	...	...	...	...	—	4	4	—
Vaginitis	...	...	...	...	...	...	...	—	1	1	—
Amenorrhœa	...	...	...	...	...	...	...	—	28	28	—
Dysmenorrhœa	...	...	...	...	...	...	...	—	28	28	—
Menorrhagia	...	...	...	...	...	...	...	—	90	90	—
Leucorrhœa	...	...	...	...	...	...	...	—	72	72	—
Abortion	...	...	...	...	...	...	...	—	37	37	1
Delayed Labour	...	...	...	...	...	...	...	—	17	17	2
Postpartum Hæmorrhage	...	...	...	...	...	...	...	—	3	3	—
Retained Placenta	...	...	...	...	...	...	...	—	5	5	2
Premature Birth	...	...	...	...	...	...	...	—	3	3	1
Puerperal Septicæmia	...	...	...	...	...	...	...	—	7	7	1
Mastitis	...	...	...	...	...	...	...	—	13	13	—
Abscess of Breast	...	...	...	...	...	...	...	—	22	22	—
Other Diseases	...	...	...	...	...	...	...	—	64	64	2
Diseases of Organs of Locomotion—											
Osteitis	...	...	...	...	...	...	...	103	9	112	—
Arthritis	...	...	...	...	...	...	...	461	243	704	—
Spondylitis	...	...	...	...	...	...	...	69	1	70	—
Bursitis	...	...	...	...	...	...	...	48	6	54	—
Myalgia	...	...	...	...	...	...	...	3,565	696	4,261	—
Other Diseases	...	...	...	...	...	...	...	286	65	351	—
Diseases of Connective Tissue—											
Cellulitis	...	...	...	...	...	...	...	611	81	692	3
Abscess	...	...	...	...	...	...	...	752	177	929	1
Elephantiasis	...	...	...	...	...	...	...	21	5	26	—
Other Diseases	...	...	...	...	...	...	...	15	—	15	—

RETURN OF DISEASES (OUT-PATIENTS) FOR THE YEAR 1914—*continued*.

Diseases.								Male.	Female.	Total.	Deaths.
LOCAL DISEASES— <i>continued</i> .											
Diseases of the Skin—											
Urticaria	...	...	...	...	...	...	...	54	12	66	—
Eczema	...	...	...	...	...	...	...	248	110	358	—
Boil	...	...	...	...	...	...	...	436	111	547	—
Carbuncle	...	...	...	...	...	...	...	7	1	8	—
Herpes	...	...	...	...	...	...	...	23	5	28	—
Psoriasis	...	...	...	...	...	...	...	61	26	87	—
Oriental Sore	...	...	...	...	...	...	...	461	316	777	—
Tinea	...	...	...	...	...	...	...	229	188	417	—
Scabies	...	...	...	...	...	...	...	3,248	892	4,140	—
Acne	...	...	...	...	...	...	...	12	1	13	—
Prickly Heat	...	...	...	...	...	...	...	18	3	21	—
Ulcers	...	...	...	...	...	...	...	4,843	1,096	5,939	1
Itch	...	...	...	...	...	...	...	2,006	1,168	3,174	—
Other Diseases	...	...	...	...	...	...	...	90	35	125	—
Injuries—General	...	...	...	...	...	...	...	34	8	42	7
Local	...	...	...	...	...	...	...	7,100	1,089	8,189	11
Surgical Operations	...	...	...	...	...	...	...	1,119	263	1,382	—
Tumours	...	...	...	...	...	...	...	35	9	44	—
Malformations	...	...	...	...	...	...	...	2	—	2	—
Poisons	...	...	...	...	...	...	...	10	4	14	—
Snake bites	...	...	...	...	...	...	...	27	3	30	—
Parasites—Animal	...	...	...	...	...	...	...	—	—	—	—
Protozoa	...	...	...	...	...	...	...	—	—	—	—
Trematoda (Flukes)	...	...	...	...	...	...	...	—	—	—	—
Bilharziasis	...	...	...	...	...	...	...	1	—	1	—
Cestoda—	...	...	...	...	...	...	...	—	—	—	—
Tænia Solium	...	...	...	...	...	...	...	36	5	41	—
Tænia Saginata	...	...	...	...	...	...	...	50	60	110	—
Nematoda—	...	...	...	...	...	...	...	—	—	—	—
Ascaris	...	...	...	...	...	...	...	586	625	1,211	—
Tricocephalus Dispar	...	...	...	...	...	...	...	—	—	—	—
Trichina	...	...	...	...	...	...	...	—	—	—	—
Dracunculus	...	...	...	...	...	...	...	117	18	135	—
Filariasis	...	...	...	...	...	...	...	16	1	17	—
Strongylus	...	...	...	...	...	...	...	1	—	1	—
Ankylostomiasis	...	...	...	...	...	...	...	7	—	7	3
Oxyuris	...	...	...	...	...	...	...	190	190	380	—
Insecta—	...	...	...	...	...	...	...	—	—	—	—
Myiasis	...	...	...	...	...	...	...	3	—	3	—
Jiggers	...	...	...	...	...	...	...	456	146	602	—
Other Diseases	...	...	...	...	...	...	...	107	61	168	—
Total								67,508	23,222	90,730	298

APPENDIX I.

ANNUAL REPORT, 1914.

GOVERNMENT DENTAL SURGEON.

During 1914 the following stations have been visited :—

Entebbe	...	...	...	...	...	...	...	Resident.
Kampala	...	...	...	...	...	...	...	5 Visits.
Jinja	...	...	...	...	...	...	...	3 do.
Mbale	...	...	...	...	...	...	...	1 do.
Soroti	...	...	...	...	...	...	...	1 do.
Namasagali	...	...	...	...	...	...	...	1 do.
Masaka	...	...	...	...	...	...	...	1 do.
Mbarara	...	...	...	...	...	...	...	1 do.
Masindi	...	...	...	...	...	...	...	1 do.
Hoima	...	...	...	...	...	...	...	1 do.
Butiaba	...	...	...	...	...	...	...	1 do.

2. The number of patients attended is 261
 The number of visits of patients is 412

3. Mechanical work has been necessary in twelve cases :—

Repairs to dentures	...	...	...	10
New dentures made	...	...	...	2

4. In the following table the work is proportioned out to the stations visited :—

Stations.					Number of patients attended.	Number of visits.
Entebbe	...	...	...	...	109	186
Kampala	...	...	...	...	56	94
Jinja	...	...	...	...	43	56
Mbale	...	...	...	...	14	19
Soroti	...	...	...	...	3	6
Namasagali	...	...	...	...	4	6
Masaka	...	...	...	...	7	7
Mbarara	...	...	...	...	8	12
Masindi	...	...	...	...	9	16
Hoima	...	...	...	...	4	4
Butiaba	...	...	...	...	4	6
Total					261	412

(Sgd.) G. STANLEY BATEMAN,

Government Dental Surgeon, Uganda.

APPENDIX No. II.

PLAGUE REPORT FOR 1914 FOR THE DISTRICTS OF BUKEDI, TESO AND LANGO.

The total number of deaths recorded in these three districts was 3,238 as compared with 2,154 in 1913, an increase of 1,084.

This total is made up as follows :—

	Deaths in 1914.	Deaths in 1913.	Increase.	Decrease.
Bukedi	1,963	1,671	292	—
Teso	651	261	390	—
Lango	624	222	402	—
Total ...	3,238	2,154	1,084	—

It will be seen from the above table that the greater part of this large increase in the number of deaths is due to Teso and Lango, the former showing a 150 per cent. increase and the latter nearly a 200 per cent. increase over the figures for 1913.

LANGO.

The deaths recorded in this district during the year total 624, as against 222 in 1913, an increase of nearly 200 per cent.

During the first five months of the year the deaths showed no increase over the monthly average for 1913, and except for a small outbreak at Ekwera in Dokolo county, the disease confined itself to the known infected centres on the Namasale peninsula in Kioga county, which was the only county from which plague was reported in 1913. Most of the deaths during the five months occurred in the Kelle area, considerable numbers of Kumam being attacked by the disease, which previously had been practically confined to the Banyoro inhabiting the shores of Lake Kioga. The Kumam inhabit the interior of this area.

In May plague appeared for the first time north of Lake Kwania, a case occurring at Nabieso, the then headquarters of the district. This case was almost certainly infected at Ekwera in Dokolo county, where the disease was first reported in February. Five more cases occurred near Nabieso in June, and from this centre and Ekwera it spread to adjoining centres, serious outbreaks occurring at Kaduku and Kangai during June and July. In August it appeared at Lira, to which place the administrative headquarters had now been moved, and Kalaki, an important trading centre in Kioga county, became infected in July, 20 deaths being reported from this centre during November.

By the end of the year most of the administrative centres in Kioga county had become infected, and the only two counties not returning cases were Koli and Maruzi.

An outbreak of pneumonic plague occurred in the jail at Lira during December, resulting in nine deaths.

In the outbreak at Kaduku, during June and July, the majority of the cases had severe gastro-intestinal symptoms and proved rapidly fatal. There were 33 deaths here during this period.

Dr. Williams states that at new foci of infection, where the disease has first appeared in epidemic form, cases continue to occur in small numbers monthly after the epidemic has ceased. He also states that in the bubonic type of plague, buboes appear to be more common in the cervical region than elsewhere.

From the above account it will be seen that the disease has spread very much during the year, a result chiefly due, I consider, to the opening up of the district on account of the cotton industry and the large export of food to other parts, which has caused much more intercommunication to take place between the different parts of the district.

I think a further spread of the disease must be anticipated in the near future with the further opening up of the district.

The value of preventive inoculation would seem to be proved by the returns from certain centres on the Namasale peninsula, in which centres practically the whole population was inoculated during the last part of 1913 and the early part of 1914.

Very few cases occurred for six months after inoculation amongst this population which previously accounted for the majority of the deaths, and of the cases occurring after this period a large proportion recovered.

A total of 7,306 inoculations was performed, the majority with Bombay serum, during the year, 399 of these being done by the Sub-Assistant Surgeon, Soroti, at the time of the outbreak in Lira jail.

During the year the native inspectors were increased from two to seven.

Rs. 4,522 17 cents were paid to natives for the destruction of rats in the chief infected area, one cent being paid for a house rat, and a half cent for a field rat. The number of rats thus accounted for during the year was 565,271.

DEATHS PER COUNTY IN THE LANGO DISTRICT.

		Kioga.		Kwania.		Erute.		Dokolo.		Total.
1913	...	222	...	—	...	—	...	—	...	222
1914	...	464	...	59	...	16	...	85	...	624

TESO.

The deaths recorded were 651, compared with 261 in 1913 and 333 in 1912, an increase of 390 over the previous year (149·4 per cent. increase).

Fifty-three inoculations were done by Dr. Collyns in February at Laboli in Serere, and 497, including 8 Europeans, by the Sub-Assistant Surgeon, Soroti, at the time of the outbreak of plague at Lale port, making a total of 550 inoculations performed during the year.

TOTAL DEATHS PER COUNTY.

		Serere.		Soroti.		Usuku.		Kumi.		Bukidea.
1913	...	177	...	18	...	59	...	7	...	—
1914	...	454	...	38	...	90	...	44	...	25

As in 1913, no return was received from Soroti county for August.

Serere county had 454 deaths, or over two-thirds of the total.

The two main centres of the disease in Serere and Usuku counties still account for the large majority of the deaths, and show large increases over the figures for 1913. The other three counties also show large increases over 1913, but it is quite probable that these latter increases are apparent only, and may be due to the employment of more native inspectors and so to better reporting of cases, as it will be seen on looking at the table of deaths for the Teso district that the deaths in Kumi and Bukidea counties occur almost wholly during the last five months of the year, *i.e.*, after plague inspectors were appointed for those counties. I think it is probable that part of the large increase in deaths in Serere county is due to the fact that practically no preventative inoculations were performed during 1913 in this area. In 1912, 6,203 inoculations were performed in the worst infected districts, and in 1913 the deaths numbered 177, as against 306 in 1912, before the inoculations had had time to exert their full effect.

During the year the native inspectors in this district were increased from four to nine, and now include a head inspector.

BUKEDI.

This district is divided into eight counties, viz., Budama, Bunyuli, Bugweri, Palisa, Mbale and the three divisions of the Bugishu Hills, viz., North-East, Central and South-East.

Deaths recorded were 1,963, compared with 1,671 in 1913 and 1,326 in 1912, an increase of 292 over the previous year's figures.

TOTAL DEATHS PER COUNTY.

		Budama.	Bunyuli.	Bugweri.	Palisa.	Mbale.	Bugishu Hills.		
							North-East.	Central.	South-East.
1913	...	451	306	252	203	25	114	173	147
1914	...	513	316	136	165	29	286	227	291

As will be seen Budama, Bunyuli and the Bugishu Hills account for 513, or over 25 per cent. of the grand total. The increase of the disease in the Bugishu Hills is most marked, but was to be expected, as the Bagishu are gradually becoming more civilised and are mixing more with the plain tribes amongst whom the disease is endemic. The counties Bugweri and Palisa have a somewhat less death rate this year, but it is more than counterbalanced by the Bugishu Hills, which has increased by 370, viz., from 434 to 804, or over 85 per cent. The deaths in Mbale are 29, 9 of which occurred in Kakungurus Mailos. One case was admitted in June from Bumasifwa in N.E. Bugishu.

The number of native inspectors in this district has been increased from 10 to 14 during the year.

PREVENTIVE MEASURES.

(1) *Rat Destruction*.—In January and February 4,090 rats were brought in and paid for at the rate of one cent apiece. Whether the reduced rate of pay per rat was the cause or not, no rats have been brought in since then.

(2) *Native Inspectors* were employed in each county to report outbreaks and deaths from plague and to insist on isolation of sick, segregation of contacts, burning of infected huts and clothing, and proper burial of the dead.

These natives at the end of the year numbered in Bukedi and Teso 23, compared with 14 in the same two districts in 1913.

The Bukedi inspectors report at Mbale at the beginning of each month, and the Teso ones bring in their reports to the Sub-Assistant Surgeon at Soroti, who forwards them here.

Nearly all the inspectors have bicycles, for which an allowance of Rs. 5 per month is made.

In the Lango district the number of inspectors employed during the year was seven, as compared with two in 1913.

(3) *Preventive Inoculation*.—Inoculations have been done as follows:—

Lango	In district	7,306
Bukedi	At Mbale	145
	North-East Bugishu	154
Teso	Serere County	53
	Lale and Soroti	496
	Total	<u>8,154</u>

The inoculations in Serere were done in February by Dr. Collyns. Those in North-East Bugishu (Bumasifwa 57 and Bulegenya 97) were done in September, also by Dr. Collyns.

Bombay lymph was used in the majority of cases.

(4) *Segregation*.—Segregation camps have been built by the Chiefs at all administrative centres where plague occurs. An isolation camp (permanent) is now in course of construction on the Kachumbala Road, about two miles from the collectorate at Mbale.

APPENDIX No. III.

REPORT ON THE EPIDEMIC OF PLAGUE DURING JULY, AUGUST, SEPTEMBER AND OCTOBER.

On Monday, 27th July, I received a wire from the Medical Officer, Jinja, to the effect that he had found plague bacilli in the lung of a man brought in dead the previous day, and also in the bodies of some dead rats found in the railway goods store.

2. The port was forthwith declared infected with plague. I managed to catch the boat at Kampala the following morning, taking with me a quantity of anti-plague serum, and arrived on the morning of the 29th.

3. I found that Dr. Spearman, the Medical Officer, had promptly inoculated as many possible contacts as the serum he had in stock allowed, and had attempted to enforce

quarantine restrictions in the pier railway employees' quarters, which he treated with disinfectants as far as possible. On the 30th six more cases were discovered in widely separated parts of the town, so that the outbreak promised to be a serious one.

4. The following measures were decided on:—

(1) To prevent the spread of the disease outside the town:

(a) To other ports on Lake Victoria:

(1) Neither the crew nor passengers arriving on the lake steamers were allowed to land unless the latter were booked to Jinja itself;

(2) No deck passengers were allowed to embark (later permits to embark were given these if inoculated and kept under observation for eight days and their effects disinfected);

(3) No hides and no cotton except in fully pressed bales were allowed to be exported.

(b) To Buganda.

The obvious measure would have been to close the Jinja Bugungu ferry, but it was decided that this would be impolitic, as the market at Bugungu furnished the chief native food supply for the town, so that restrictions on people crossing the ferry had to be postponed until a sufficient number of inoculations had been performed, after which no person was allowed to cross the ferry without inoculation passes.

(c) Into the Interior of Busoga.

As forming a cordon round the town to prevent the inhabitants leaving was out of the question, and there was considerable danger of allowing the disease to spread by means of the monthly (Kasamvu) labourers who were due to return to homes at the end of the month in hundreds, it was decided to inoculate them all before allowing them to proceed. This was done. I wished to detain them for eight days after inoculation, but this was said to be impracticable.

(d) In the Township.

Isolation of cases.—This was done, the patients being placed in isolated temporary huts, which were afterwards burnt. Infected corpses were also burnt with clothes, &c.

Segregation of contacts.—*Direct contacts* (i.e., persons who had slept in infected huts and houses) were put in isolated huts and guarded. There was much difficulty in collecting them, however, and some cases during the outbreak were brought to the Dispensary and left there by their friends, the patient not being able to account where he came from.

Indirect contacts (i.e., possible contacts). At first, owing to the diffuse distribution of the disease, I was inclined to consider as such all the native population of the town, but more especially the temporary and permanent employees at the railway station and on the pier, and these were instructed not to communicate with other parts of the town other than their quarters and their business. This, however, was difficult to enforce owing to the lack of discipline among the pier and railway staff, and to the insufficient police force at hand.

Burning of Infected Dwellings.—This was done, and in most cases the surrounding huts as well, so that as outbreaks occurred in the railway artificers quarters, pier hands' lines, &c., these were all burnt. As they were mostly in a dilapidated condition this did not much matter. The outgoing Kasamvu labour camp was burnt, the incoming labourers bringing in material with them to build a new camp for which a new site was chosen. It was arranged to repeat this practice at the end of each month.

Inoculations with Haffkine's Serum.—By the 8th August 7,900 people had been inoculated, which included all the Europeans, police, prisoners, the railway and pier employees, and all the July and August Kasamvu labourers, as well as most of the Indian merchants and native general population. No difficulty was experienced in persuading the natives to come in for inoculation; in fact, an impatient crowd awaiting their turn became somewhat riotous and broke several

windows in the Dispensary. In carrying out these inoculations valuable assistance was afforded by Mr. Hart, Veterinary Officer, who gave several hours of his spare time, and by Mrs. Spearman, who volunteered to inoculate the Purdah and other Indian women. The work was much increased by lack of printed inoculation passes.

Rat Destruction.—A certain amount of poison was distributed, but the results were not satisfactory, and very few traps were available.

General Precautions.—A meeting of the Indians in the bazaar was called, and I gave them advice and instructions as to general cleanliness of their houses and compounds, protecting their stock of food, &c., from rats; exposing their bedding, &c., to the sun, and the use of disinfectants. To their compliance with these instructions I attribute, to a great extent, the very small number of cases of plague in the bazaar. Similar instructions were issued to European servants, police, and railway employees—the latter, especially the Indian artisans, gave a lot of trouble. Clearing of compounds and elsewhere in the station was undertaken, especially in the railway reserve. A native inspector was appointed to search all native huts in the township for concealed cases. These general measures were continued throughout the epidemic.

5. On the 5th of August a large number of dead rats were found on the pier. I therefore closed the pier, and ships were ordered to anchor outside, cargo and passengers being landed in boats and brought to the shore. The ferry landing place was shifted to a point further away from the pier.

6. On the 7th August, war having broken out and shortage of supplies being feared, it became necessary to allow merchants to clear their goods lying on the pier. Persons entering the pier for the purpose were sprayed with formalin, with their loads, and at the same time I had all the cargo awaiting export lying on the pier head removed, so as to cleanse this part of the pier, and had a barrier of corrugated iron erected across the pier, so as to control more easily passengers, &c., when ships were again allowed to lie alongside. Also arrangements were made with the railway authorities to send the s.s. "Usoga" to clear all the export cargo (which was claytonised at Kisumu) so as to disinfect the whole pier. This was done, and no plague rats were afterwards found on the pier, and the restrictions on shipping were relaxed to some extent.

7. Owing to war requirements several consignments of troops and military porters were sent through Jinja from up country, fortunately after the pier head had been cleared. It was decided that the safest plan was to bring them by train direct on the pier and embark at once. I have no information of any of these men having contracted plague at Jinja. Owing to the cessation of export traffic on the Uganda Railway, it was arranged that all pressed cotton should be stored at Jinja. In view of the plague epidemic this storage of cotton would have become a most undesirable harbourage for rats, and I therefore arranged for the purchase of a large quantity of naphthaline to store between the bales. Fortunately the railway again was opened for traffic and this precaution became unnecessary.

8. On the 10th August another case (an Indian artisan) occurred on the railway, from which it appeared that the principal focus of infection was in this quarter of the town, and that therefore the railway employees should be considered as contacts. As I could not confine them in a segregation camp without disorganising the working of the railway entirely, I arranged that two sub-chiefs with a guard of 20 natives should form a cordon round their quarters and the railway station (as a large number of their quarters had been burnt they were accommodated in tents).

9. In spite of this, one of them, an Indian artisan who had been discharged, broke through the cordon, and I discovered him trying to obtain a passage on the steamer. I had him arrested, and, unfortunately, he was placed in the police lock-up for a few hours. While there I have every reason to believe he conveyed the infection to a remand prisoner, who occupied the same cell, and who sickened of the disease and died a few days afterwards.

10. Though in the first week of the outbreak a few dead rats were found in the bazaar, no case occurred therein till August 28th, and altogether cases occurred in only three compounds in the bazaar. In one of these an Indian had left his shop shut up and had gone to Kampala. An offensive smell was traced to the shop, and I had it broken into and found a number of dead rats. The effects left in the shop were disinfected, as well as those of other shops which had been similarly left unoccupied.

11. On the occurrence of the first case in the bazaar some of the Indians, who were thoroughly scared, evacuated Jinja and formed a segregation camp five miles outside the town in which to sleep, returning daily to contract their business.

12. The next quarter of importance to become infected was the Public Works Department's premises where a store in which food was kept adjoins the office. In the former dead rats were found on the 9th of September, and an office boy employed in the latter contracted the disease. An attempt to make the store rat-proof with cement resulted in one of the masons also becoming infected. The premises were therefore closed down for ten days, after which no more dead rats were found therein.

13. During the month of October two cases only occurred, on the 10th, one in the servants' quarters of a European's house near the police lines, and the other in a hut not far off, and two days after plague infected rats were brought in from the police lines and the vicinity. Since then no cases of rat or human plague have been reported.

14. The human cases totalled 39, of which 33 died. The majority of these occurred in the vicinity of the railway station, where mortality among rats was first noticed. Besides this and other localities I have mentioned some were found in outlying huts in the township, and others either came themselves or were brought to the Dispensary with no history of where they contracted the infection. So that at one time or another the whole town must have been infected, and without the universal anti-plague inoculation the number of cases must have been very much larger. (Several of the later cases, however, had been inoculated previously.) Fortunately, no Europeans became infected, and, with the exception of the case mentioned above, no case occurred among their native servants, and no mortality among rats in the European compounds was reported.

15. With the exception of the inoculation, the prompt burning of native locations and the general preventive measures instituted in the bazaar, no measure that was taken can be said to have done much towards preventing the spread of the disease in the town itself.

16. Segregation of contacts proved to be a most difficult task, chiefly because of the lack of police and the difficulty of obtaining any intelligent natives as a subordinate anti-plague staff. The two barbed wire enclosures for the isolation hospitals and segregation camp were not erected till the severity of the epidemic had begun to relax.

17. Clearing operations were latterly conducted on a large scale, chiefly in the jungle surrounding the bazaar, the ginneries and the pier. A special fund for the purpose was placed in the hands of the District Commissioner, and a plough was employed to assist in the work.

18. The efforts made towards rat destruction were very unsatisfactory, chiefly from lack of intelligent natives who could be employed for the purpose of setting traps, &c. Poison and the offer of rewards were equally negative in results. I enclose a report by Dr. Duke on the question of rats in connection with the Jinja outbreak of plague, and I think the suggestion of systematic rat drives might do much towards rat destruction.

19. I would suggest that if all the labourers employed in the various Government Departments (they amount to over 1,000) were to relinquish their usual employment for one hour in each week, and systematically drive the open spaces in the town, especially near the bazaar and places where food is stored, much good might result.

20. Fortunately no infection as far as I know was carried from Jinja to other parts on the lake. Cases were reported from Kyagwe in Buganda (not confirmed) and from the interior of Busoga, where, however, the disease is always supposed to be endemic.

21. With regard to the origin of the outbreak, the infection may have been brought into the town in any of the following ways:—

(1) By plague-infected rats in grain brought from Kisumu or Lango, both of which are plague infected.

(2) By means of unginned cotton either from the interior of Busoga or from Lake Kioga by the railway.

(3) By persons who have been infected elsewhere and have sickened of plague in Jinja.

22. I am inclined to think the last theory is the most likely one. The disease is endemic in various parts of Busoga, and I think it very likely that some porter carrying cotton may have brought in the infection.

23. Dr. Spearman had heard of cases of sudden death in the town (which may have been plague) previous to that which was recorded, but was unable to obtain any post-mortem examination.

24. In closing the report I cannot speak too highly of the co-operation of Dr. Spearman and Mr. T. V. Fox, who was the Administrative Officer in charge of the station during most of the epidemic, in carrying out the preventive measures.

C. J. BAKER,

*Medical Sanitary Officer,
Uganda Protectorate.*

I have the honour to forward herewith the data and recommendations resulting from my recent visit to Jinja to investigate the rat aspect of the plague epidemic in that town.

1. The epidemic among both human beings and rats had almost ceased before my arrival on September 26th. The last two cases up to date occurred on October 10th, and were of the pneumonic and septicæmic types respectively. Both of these natives had recently been inoculated.

2. As a result of my observations, I consider that special attention should be devoted to the destruction of rats in the township, and I think that such measures should meet with considerable success if systematically undertaken.

3. From the point of view of rat destruction, Jinja may be roughly divided into four parts which, though not actually discontinuous, are at present more or less isolated from one another by stretches of open grass land. This arrangement of the town results in the existence of several centres of rat population, each of which can receive special attention. These arbitrary divisions are :—

- (1) The P.W.D., railway and ginnery neighbourhood,
- (2) The pier and its sheds and huts,
- (3) The Indian bazaar,
- (4) The police lines and neighbouring native quarters.

I think it desirable to maintain this plan as far as possible, and the ploughing measures already instituted by the Medical Sanitary Officer should be maintained. This applies to the extension of Indian dwellings, and particularly native huts, with their surrounding potato patches.

4. Rats are at present numerous in Jinja. They abound in the Public Works Department and railway buildings, and are particularly numerous in and around the grass huts of the police lines and in the immediate neighbourhood.

5. In the Public Works Department and the railway buildings steps should be taken to render the food stores inaccessible to rats. At present there is unlimited food supply scattered about either in sacks or dropped during grinding operations. A considerable proportion of the rats picked up dead during the epidemic were found in and about these buildings.

6. The Indians in the bazaar, in spite of a racial aversion to killing rats, all keep cats. As a result it appears from a superficial enquiry that rats are relatively uncommon in the houses of this quarter. During the epidemic also a relatively small number of cases of plague occurred in this area, in spite of the inevitable filth and overcrowding associated with Indian dwellings.

7. Rats are extremely numerous in the grass native huts, particularly in the patches of potatoes and other cultivation in their immediate vicinity. From the number of young

animals caught far out in these potatoes, it appears probable that the rats live in the open, and enter the huts in search of food. Patches of long grass in between or bordering potato plots are favourite haunts, as are the scattered heaps of cultivation rubbish collected by the women.

8. Trapping proved totally inadequate as a means of exterminating rats in Jinja. Wire basket traps were employed. (*Cf. infra* 10.)

9. I strongly recommend the systematic employment of poison in the corrugated iron sheds of the Public Works Department, railway and pier. Food heaps should be surrounded with the tarry product referred to by the Medical Sanitary Officer, and the fumigation process recommended in the *I.M.S. Gazette* of August, 1914, should be applied in houses wherever possible.

10. By far the most effective means of rat destruction appears to be that of organised drives by natives armed with sticks. All patches of cultivation bordering native huts should be driven, and the neighbouring patches of long grass.

By this means 196 rats were obtained during two days' desultory work by some 40 men. Under strict supervision more rats could easily be obtained in considerably less time. Previous to these drives wire traps had been employed, and only 42 rats were obtained in 25 days.

These drives should be held at regular intervals, say weekly or bi-weekly, until the requisite data are acquired to adjudge the best means of applying the measure.

11. All rubbish heaps and small patches of long grass in among the potato patches should be removed.

12. Of a total of 138 rats dissected and examined by spleen smear, four showed plague bacilli. Of these, one was found dead and three were caught alive and apparently healthy in traps. The last two of the infected rats were caught in the police and postal lines respectively on October 11th and 12th, 1914.

13. Two rats brought in dead showed no plague bacilli in their spleens. In one smear, made by the Sub-Assistant Surgeon, numerous *B. subtilis*-like bacilli were seen, probably due to contamination.

I am, Sir,

Your obedient Servant,

H. L. DUKE,

Bacteriologist.

THE PRINCIPAL MEDICAL OFFICER,

UGANDA PROTECTORATE.

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